

Understanding the Interdependence between Policy Networks and Policy Outcomes

A dialectical approach applied to
business parks in The Netherlands

Fatma Saçlı

ISBN: 978-90-818325-0-2

Cover design and graphics: Demirhan Şeker

Layout: Ziya Aliyev, Karel Kans

Printed by Wöhrman Print Services, Zutphen, the Netherlands

Copyright © 2011, Fatma Saçlı. All rights reserved.

Understanding the Interdependence between Policy Networks and Policy Outcomes

A dialectical approach applied to
business parks in The Netherlands

Inzicht in de onderlinge afhankelijkheid tussen beleidsnetwerken en beleidsresultaten

Een dialectische benadering toegepast op bedrijventerreinen in
Nederland

Thesis

to obtain the degree of Doctor from the
Erasmus University Rotterdam
by command of the rector magnificus

Prof.dr. H.G. Schmidt

and in accordance with the decision of the Doctorate Board.

The public defence shall be held on
Thursday, the 15th of December 2011 at 15:30 hours

by

Fatma Saçlı
Born in Ceyhan, Turkey



Doctoral Committee

Promoters: Prof.dr. W.A. Hafkamp
Prof.dr. H. Geerlings

Other members: Prof.dr. D. Marsh
Prof.dr. J. Edelenbos
Dr. F.A.A. Boons

To my mother, Ünzile Yıldız Sağı

In memory of my father, Mahmut Sağı

Table of contents

Chapter 1 Introduction	1
1.1 The journey from 'organised industrial zones' to 'business parks'	1
1.2 Beyond the transport policy of the business parks.....	2
1.3 Why policy networks?	4
1.4 The concept of business parks	5
1.5 Dutch national policy for sustainable business parks.....	8
1.6 Scientific and societal relevance	16
1.7 Research methodology	18
1.7.1 Research strategy	18
1.7.2 Research questions.....	22
1.8 Structure of the dissertation	23

THEORETICAL PART

Chapter 2 An overview of the policy networks literature	29
2.1 Introduction	29
2.2 Policy networks: definitions and classifications	29
2.3 Major approaches to the study of policy networks	34
2.3.1 Policy networks as a form of Governance	35
2.3.2 Policy networks as a form of interest intermediation: the British school.....	52

Chapter 3 The dialectical model of policy networks	71
3.1 Prologue: What is in the name?	71
3.2 Background of the dialectical model of policy networks	71
3.3 Rhetorical questions and propositions underpinning the dialectical model	74
3.4 What is the dialectical model about?	76
3.4.1 Beyond network structure versus network agency	76
3.4.2 Beyond network versus context	78
3.4.3 Beyond network versus outcomes.....	79
3.5 The dialectical model	79
3.6 Critiques on the dialectical model	80
3.7 The Response of Marsh and Smith to the critiques	86

Chapter 4 A critical review of the dialectical model of policy networks	91
4.1 Introduction	91
4.2 Some inferences from the dialectical model	91

4.3	The dialectical model of policy networks: empirical application	94
4.3.1	Introduction	94
4.3.2	Analysing the empirical application of the dialectical model: convergences.....	95
4.3.3	Analysing the empirical application of the dialectical model: divergences.....	96
4.4	Limitations of the dialectical model	100
4.4.1	Networking stages not prescribed	100
4.4.2	Treatment of policy outcome, policy change, and network change.....	100
4.4.3	Network structure and agency underspecified	101
4.4.4	Diagrammatic schemes.....	103
4.5	Summary of the critical review	105

Chapter 5 Revising and operationalising the dialectical model of policy networks 107

5.1	Introduction	107
5.2	The stages of networking and their linkage with network shape	108
5.3	Linking policy outcomes and policy networks	110
5.4	The meaning of network structure and network agency, and their dialectical relationship.....	112
5.4.1	On network agency	113
5.4.2	On the network structure: shape of the network.....	115
5.4.3	On the dialectical relationship between structure and agency: How does it work?.....	116
5.5	Diagrammatic representation of the revised dialectical model.....	117
5.6	Operationalising the revised dialectical model of policy networks.....	118

EMPIRICAL PART

Chapter 6 The Ecofactorij Apeldoorn: A municipal attempt to develop a sustainable business park 125

6.1	Linking the networking stages and the network shape.....	131
6.1.1	Stages of networking in the Ecofactorij	131
6.1.2	Network shape over the course of the stages of networking	142
6.1.3	Synthesis: Change in the network shape over the course of the stages of networking in the Ecofactorij.....	152
6.2	Linking the policy outcomes and the policy networks	163
6.2.1	Introduction	163
6.2.2	Broader policy context.....	164
6.2.3	Policy scope as indicated by the Ecofactorij Quality Plan	166
6.2.4	Identifying the policy outcomes	172
6.2.5	Synthesis: Linking the policy outcomes to the network shape and networking stages.....	175

6.3	Analysis of the dialectical relationships underlying each policy outcome	185
6.3.1	Introduction	185
6.3.2	The policy outcome related to the grand policy objective.....	185
6.3.3	Outcomes related to spatial-economic policy	187
6.3.4	Establishment of a Park Management Cooperative	191
6.3.5	Policy outcomes related to energy	192
6.3.6	Policy outcomes related to transport	193
6.3.7	Other policy outcomes related to sustainability and innovation	194
6.3.8	Other policy outcomes – originating from the broader context	195
6.3.9	Synthesis.....	196
6.4	Analysis of the dialectical relationships across all policy outcomes	201
6.4.1	Introduction	201
6.4.2	The dialectical relationships between network agency and structure.....	201
6.4.3	The dialectical relationships between network and the broader context	206
6.4.4	Synthesis: Dialectical relationships between the policy outcomes and the policy network embedded in the broader context	209
6.5	Overall synthesis and ‘How does the revised dialectical model work’?.....	217

Chapter 7 Producing energy at the Ecofactorij Business Park by poultry manure incineration:

	The Fibroned case	229
7.1	Linking the networking stages and the network shape.....	235
7.1.1	Networking stages.....	235
7.1.2	Network shape over the course of the stages of networking	250
7.1.3	Linking the network shape and the networking stages	264
7.2	Linking the policy outcomes and the policy networks	271
7.2.1	Defining the policy scope: the role of ideas	271
7.2.2	Identification of the policy outcomes	282
7.2.3	Linking the policy outcomes to the network shape and to the networking stages	283
7.3	Analysis of the dialectical relationships underlying each policy outcome	289
7.3.1	Introduction	289
7.3.2	Policy outcome 1: Granting of the first environmental permit	289
7.3.3	Policy outcome 2: Revocation of the first environmental permit.....	290
7.3.4	Policy outcome 3: Granting of the second environmental permit ...	291
7.3.5	Policy outcome 4: Revocation of the second environmental permit.....	292
7.3.6	Synthesis.....	293
7.4	Analysis of the dialectical relationships across all policy outcomes	299
7.4.1	Introduction	299
7.4.2	Dialectical relationships between structure and agency	299

7.4.3	Dialectical relationships between the context and the network	303
7.4.4	Synthesis: Dialectical relationships between the policy outcomes and the policy network embedded in the broader context	304
7.5	Overall synthesis and 'How does the revised dialectical model work'?	309
Chapter 8 Conclusions and recommendations		315
8.1	Introduction	315
8.2	Conclusions: key findings of the research questions	316
8.3	Policy recommendations	322
8.4	Conclusions on the revised dialectical model of the policy networks ...	322
8.5	Limitations of the revised dialectical model of the policy networks	326
8.6	Conclusions and recommendations on the research methodology	327
8.7	Recommendations for further research.....	327
References		331
List of interviewees		345
Summary		347
Samenvatting		353
Acknowledgments		359
Curriculum Vitae		363

Subject matter

*Look at the subject as if you have never seen it before.
Examine it from every side. Draw its outline with your eyes
or in the air with your hands, and saturate yourself with
it.*

John Baldessari

Chapter 1

Introduction

1.1 The journey from ‘organised industrial zones’ to ‘business parks’

I grew up hearing the term ‘organised industrial zones’¹ in Turkey; and I recall seeing these zones during the long intercity bus trips in my childhood when the bus was leaving and/or entering a town along the route. Then, in September 1990, when the High School in the city of Bursa, where I studied, had to relocate temporarily, from a 15-minute walking distance from where I lived to an out-of-town location, the ‘organised industrial zones’ became an almost everyday reality for me for one school year. The new location of the school was within a new satellite neighbourhood, situated opposite Turkey’s first organised industrial zone², separated by a busy provincial road with heavy traffic. The bus stop where we, students, needed to alight in order to reach the school was right in front of the organised industrial zone. This zone involved a cluster of textile factories and adjacent offices. I could see company buses full of commuters every morning and late afternoon – when the first shift was over – and cars, as well as trucks coming in and going out carrying raw materials of silk and cotton or end-products such as fabrics and towels. Just like those commuters, the students, had to travel a long way as well, primarily by buses provided by the public transport company of the Metropolitan Municipality of Bursa. Alternatively, privately hired mini-buses used to collect about 15 students who lived in the same neighbourhood, and bring them to the school. Those were long trips.

¹ ‘Organised industrial zones’ is used as a generic term in Turkey (in Turkish: *Organize Sanayi Bölgeleri (OSB)*), as being equivalent to business parks. Organised industrial zones (OIZs) are the areas for the manufacturing of products and provision of services and operated in accordance with the Act of the OIZ Law, by equipping lands, which have approved boundaries, with the necessary infrastructure, technoparks and social facilities as may be required. OIZs are designated for a particular industry under a certain plan and certain system (Law on Organised Industrial Zones dated 15/04/2000, number 4562; Regulation on Organised Industrial Zones, published in Official Gazette No. 24713, dated 01/04/2002) (In Turkish. Translated by *Yatırım Ortamını İyileştirme Koordinasyon Kurulu (YOİKK)*).

² *Bursa TSO Organize Sanayi Bölgesi*, founded in 1961.

Organised industrial zones, or in other words, ‘business parks’³ as a commonly used term in the Netherlands, reappeared in my life in autumn 2001 when my colleague Harry Geerlings asked me whether I would be interested in a PhD position at the then Erasmus Centre for Environmental Studies⁴ (ESM) of the Erasmus University Rotterdam – where I used to be a visiting researcher. The PhD position involved, in parallel, consultancy work for an EU project called Ecopadev⁵ (**Eco**-industrial **parks development**). The idea was that the work involved in the project would provide input for the PhD research. Involving 12 European partners, the Ecopadev project aimed to develop sustainable development strategies for the science and technology parks in Europe. Within this overall aim, our thematic focus was on sustainable transport strategies for the science and technology parks, while other themes such as energy use, waste management, etc. were dealt with by other partners. By this means, my journey into the particular topic of this dissertation started officially in January 2002, in parallel with work on the Ecopadev project, which lasted until July 2004.

1.2 Beyond the transport policy of the business parks

The inventory of the case studies on various business parks from all over Europe, as required by the Ecopadev project, revealed a remarkable finding, which in fact was not surprising. Commuter transport was often not seen as an integral part of the business activities of the companies located in the studied business parks, whereas business-visits and goods transport were often dealt with in the corporate policy of the individual companies. The potential synergy for sustainable passenger transport, if handled collectively by a cluster of companies, was often far from being utilised in the business parks; and this was often associated with a certain level of lack of interest. Even if an individual company or a group of companies made a joint effort for commuter transport, so as to, for example, decrease the dependence on car use, these often appeared to be incremental efforts, which did not last long. Evidently, it was a challenge to include commuter transport, manifestly seen as ‘derived demand’, in the corporate (sustainability) policies of the companies. When it was about the business-visits and freight transport, the concerns of the companies for ‘accessibility’ and ‘just-in-time delivery of goods’ overrode the concern for shifting to more environmentally-friendly forms of mobility. This result has definitely not prevented us developing, in the Ecopadev project, a sustainable transport strategy for the business parks; on the contrary, it strengthened the rationale for our work; however, this particular finding had an impact on the preliminary design of this PhD research.

³ In Dutch: *bedrijventerreinen*.

⁴ Later called as the Erasmus Centre for Sustainability and Management.

⁵ Full project title: ‘Developing new decision-making tools to promote the sustainable development in European cities based on eco-industrial park strategy’. Framework Programme 5. ‘Energy, Environment and Sustainable Development Programme’. Key Action 4: City of Tomorrow and the Cultural Heritage. Contract number: EVK4-2001-00089.

In my initial research design, I aimed to explain how and why environmental dimensions of the passenger transport policies of a selected number of Dutch business parks changed/evolved; and what role policy networks played in that. However, the initially selected four case studies (for further information, see Section 1.7.1) confirmed that there were either small-scale initiatives for incorporating sustainability in the commuter transport or business visits, which were short-lived; or alternatively, there was almost no implementation of, or concern about, this very topic at the corporate level of the companies, neither individually nor collectively. Thus, the scope of this research enlarged to 'business parks' as such, going beyond the (sustainable) passenger transport policies therein.

The planning and development of business parks, which provide about one-third of the employment in the country, has been a crucial element of the Dutch national spatial-economic policy. By 1 January 2010, there were 3616 business parks in the Netherlands, which encompassed 80,000 ha (net) (Ministerie van Infrastructuur en Milieu⁶ & Arcadis, 2010:17). This area is 2 per cent of the total land surface of the Netherlands⁷. Under the conditions of limited space in the Netherlands, and the potential that business parks have for the Dutch economy, their planning and development require special attention.

There are two current issues related to the business parks in the Netherlands: *First*, there is the problem of vacant business parks, which fail to generate a return. These amount to about 14 per cent of the newly established business parks (13,800 ha vacant business parks in 2008). *Second*, approximately 30 per cent of the existing business parks have become obsolete. It is estimated that half of the obsolescent business parks are in need of restructuring. In the face of the mismatch between demand and supply of the new business parks, and the remarkably costly restructuring process that the obsolescent business parks need, it is essential to plan the supply of business parks. In addition, management of both new and old business parks is crucial in order to keep them up to date and ensure they continue to meet modern standards⁸.

Incorporating sustainability in the planning, design and management of the new business parks and ensuring a sustainable revitalisation of the obsolescent business parks is a challenge. This challenge requires a multi-sectoral focus and a wide-range of stakeholders. In addition, it requires not only good policy formulation but also robust policy implementation.

How are the policies made regarding the planning and management of business parks? How are the policy outcomes modified and curbed? What influence do

⁶ Ministry of Infrastructure and the Environment.

⁷ Based on the information provided by the Dutch national government. Retrieved from: <http://www.rijksoverheid.nl/onderwerpen/bedrijventerreinen/feiten-over-bedrijventerreinen>.

⁸ Based on the information provided by the Dutch national government. Retrieved from: <http://www.rijksoverheid.nl/onderwerpen/bedrijventerreinen/rijksbeleid-bedrijventerreinen>

policy networks have in achieving certain policy outcomes? These are some of the underlying questions of this research, the answers to which I seek by adopting the policy networks approach: in particular, the dialectical model of policy networks.

As such, I provide a brief sketch of the policy networks approach (1.3) and introduce the concept of business parks (1.4). Then, the sustainable business parks policy in the Netherlands is briefly elaborated (1.5). Following that, the scientific and societal relevance of this research is illustrated (1.6), and the research strategy and research questions of this dissertation are presented (1.7). Finally, I present the outline of this dissertation in Section 1.8.

1.3 Why policy networks?

In contemporary societies, the formulation and implementation of public policy involves a multiplicity of governmental and non-governmental actors, who have a stake in a certain policy issue. These actors often form policy networks. A policy network can be in the form of a project team, where there is an appointed coordinator or manager who is responsible for running the process smoothly and making sure that all stakeholders have a say. However, in practice, policy networks are not always composed so deliberately. Often, almost automatically, actors start acting on a public policy issue because they have official responsibility and/or they have a stake/interest regarding the issue. In these circumstances, we can talk about policy networks, as an abstraction, while the members of the *de facto* policy networks may not be conscious of being part of them.

In this dissertation, I am interested in the policy networks which fall in the second category. Over the course of policy formulation and implementation on a particular topic – which, in this dissertation, is business parks – questions arise, such as: How do certain policy outcomes occur? How do policy networks around business parks have an influence on the policy outcomes? These basic questions constitute the point of departure in this dissertation.

In understanding the influence of policy networks on the policy outcomes, we need to begin with elaborating on what a policy network is all about. Thus, we need to specify the actors who are involved in the policy network; what motivates them to join and stay in the network, and how they interact. This closer look helps us understand how the policy network gains a certain structure which, in turn, constrains and facilitates the same actors, thus contributing to the formation of certain policy outcomes. This constant interaction between network actors, network structure, and policy outcomes is not free from external influences. They are embedded within a broader context composed of macroeconomic and political conditions, as well as the specific context of the relevant policy field. As a result, policy outcomes are, on the one hand, the product of policy networks

embedded in a broader context. While policy outcomes are (re)shaped throughout the process of policy formulation and implementation, they may, on the other hand, exert influence back on the dynamics of network and actors' interaction, as well as on the broader context. It is this intertwined and dynamic story regarding the interdependence between policy networks and policy outcomes in which I am interested, and I would like to understand and explain how certain policy outcomes come about in the context of business parks in the Netherlands, based on the specific case of the Ecofactorij Business Park in Apeldoorn. This specific case constitutes one of the earliest examples of a municipality's attempt in the Netherlands to develop a sustainable business park from scratch (Ministerie van Economische Zaken⁹ & Novem, 2000:19).

1.4 The concept of business parks

According to the Integrated Business Parks Information System (IBIS), a business park is defined as 'a work location of at least 1 ha, designated for activities in the field of trade, industry, and 'small and medium-sized business activities'¹⁰. Business parks can also involve some commercial and non-commercial services (such as office buildings, retail), provided that the share of these services in the total surface is small (Ministerie van Infrastructuur en Milieu & Arcadis, 2010).

The term 'industrial parks' was commonly in use until the 1970s in the Netherlands when the industrial activities were prevalent. However, later, with the shift from the industrial to the post-industrial era, the concept of 'business parks', as a generic term, replaced the term 'industrial parks'. According to the IBIS database, in 2002, the Ministry of Economic Affairs and the Ministry of Housing, Spatial Planning and the Environment defined five types of business parks: (i) industrial parks; (ii) harbour sites; (iii) mixed business parks; (iv) high-value business parks; and (v) distribution parks. In addition to these five types, office locations were seen as a separate category (IBIS, 2002, cited in Saçli 2004a). However, recently a new 'work locations' policy was adopted, which involves business parks as one of the three types of work locations, the others being harbour areas and economic zones¹¹ (Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer & Arcadis, 2010:6).

Developing business parks in the Netherlands entails complex and lengthy processes. There are basically four phases identified in business park

⁹ Ministry of Economic Affairs.

¹⁰ In Dutch: *nijverheid*.

¹¹ Economic zones are grouped into five categories: (i) retail, furniture malls; (ii) education locations; (iii) locations of hospital and care-institutions; (iv) services supporting the airports such as maintenance, catering and tertiary activities; (v) agro-business complexes (Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer & Arcadis, 2010:18).

development: (i) planning; (ii) design; (iii) land allocation¹²; and (iv) management (Huijben & De Kroes, 1999:79). During the planning and design phases, as stated by Louw et al. (2004), interest organisations and other levels of government can play an oppositional role, and they can delay the process. At times, the opposition may go on for years, so the procedures can be very lengthy. At other times, stakeholders may aim to influence the policy outcomes rather than opposing them. Therefore, the process may not always be as smooth as planned by the municipalities. For each of these phases, different policy instruments can be used, as listed in Table 1.1.

Table 1.1: Policy instruments according to the phases of business park development

Business park development phase	Policy instruments
Planning	Planning decision, covenants, location policy
Design	Master plan, zoning plan
Land allocation	Public private partnership, land sale, pricing policy
Management	Park management

Source: Adapted from Huijben & De Kroes (1999:79-81).

The planning at the national and regional levels is guided by national and provincial policy principles; these principles are translated in the local context by the municipalities in their spatial development plans. Throughout the four phases of business park development, the municipalities have most of the responsibility. At the same time, this responsibility gives the municipalities a playing field in which they can use different instruments. As Louw et al. (2004) suggest, the position of a municipality as the landowner of a business park can serve as an economic policy instrument. Furthermore, a municipality can use land policy as a way to select companies in order to build, for example, logistics parks. In fulfilling spatial policy, municipalities have certain responsibilities, such as making a Zoning Plan¹³. By means of zoning plans, they can set conditions on the companies. Park management is ideally seen as an instrument at the management phase, which can be used by the companies of the business park.

Apart from the development of new business parks, outdated business parks require special consideration. There are different categorisations of the obsolescence of the business parks. The Ministry of Housing, Spatial Planning and the Environment indicates that business parks can experience four types of obsolescence (for another categorisation, see Louw et al., 2004):

- (i) *Technical obsolescence* is related to the existence of physical and non-physical infrastructure in a business park, which no longer meets the requirements of the enterprises. Examples could be lack of large-scale maintenance; lack of fibre-optic cable connections, or too narrow road connections.

¹² In Dutch: *uitgifte*.

¹³ In Dutch: *bestemmingsplan*.

- (ii) *Economic obsolescence* could be linked to the reduced level of the contribution of the business park to the economic development of the municipality/region in terms of, for example, the number of jobs, but also to a decrease in the land value and the technological obsolescence of the commercial real estate which makes it difficult to sell the lots and buildings.
- (iii) *Spatial obsolescence* is linked to the design and layout¹⁴ of the business parks and their spatial compatibility with the immediate surroundings. Here, conflict between different uses of the land functions can be an issue. An example is that, because of the changing environment, the location might no longer suit with the function of the type of business park. Lack of public transport connections for the labour intensive companies constitutes another example.
- (iv) *Societal obsolescence* is about safety and other liveability issues due to, for instance, changed regulations (environment, safety, working conditions) (Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer & Arcadis, 2010:22-23).

When the broad picture of obsolescent business parks, which are in need of restructuring or revitalisation, is added to the mismatch between the supply and demand for the business parks, the issue becomes even more complex. But, this complexity, although highly relevant, is beyond the scope of this dissertation.

Business parks constitute a cluster of companies in physical proximity, in a specifically designated area. This feature of the business parks provides certain benefits (Saçli, 2004b). As such, local authorities favour the establishment of business parks to ensure the intensive use of land and decreased costs for infrastructural investments, and to create a strong business environment in their localities. In addition, they would like to keep industrial activities¹⁴ away from the urban areas. In the private sector, companies enjoy various benefits from being a part of the business parks. *First*, the agglomeration factor leads to decreased costs for common maintenance services. *Second*, parks with companies in similar sectors benefit from joint marketing activities and increased exposure. *Third*, business parks embody conditions for synergy between companies. Synergy can be based on activities such as sharing and exchange of materials and streams, professional knowledge and expertise. In fact, at this point we can talk of a potential for incorporating sustainability principles in the business parks. Let us next put the concept of sustainable business parks in its policy context, by examining how this concept has emerged and evolved in the Netherlands.

¹⁴ In Dutch: *inrichting*.

1.5 Dutch national policy for sustainable business parks

The concept of 'sustainable business parks' is closely linked to ensuring the economic profitability of the companies located in business parks, while dealing with the environmental consequences of their economic activities. This means that companies situated in the business parks would, ideally, adopt a preventive approach both individually and collectively, that is, avoiding as many environmental consequences as possible that derive from their economic activities. Following that, the remaining undesired effects on the environment would be collectively managed. The roots of this idea, as summarised by Boons et al. (1999:12), can be traced back to the Dutch National Environmental Policy Plan (NMP¹⁵), published in 1989, that adopted the definition of sustainable development, given by the World Commission on the Environment and Development (1987) as its basis. That is:

development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

As suggested by Boons et al. (1999:11-12), sustainable development had implications for the industrial sector in two ways. *First*, in order to increase the eco-efficiency of their economic activities, the companies were held responsible for minimising and preventing the environmental effects of their activities. *Second*, the NMP mentioned for the first time the relationship between different types of industrial activities. The authors compare this relationship to process integration or industrial ecology. Industrial ecology studies the material and energy streams within the economy (the 'techno system'), as an analogy to the streams within the natural environment (the 'ecosystem'). Referring to the earlier work of Boons and Baas (1997 and 1999, cited in Boons et al., 1999:12-13), industrial ecology appears as an overarching term, encompassing all the concepts which indicate the environmental synergy of a group of enterprises in their interrelationships. The point of departure is that enterprises, just like the organisms in the natural system, provide raw materials for each other, and use each other's waste streams at the maximum level. Industrial ecology could be created in three forms (Boons et al. 1999:13):

- (i) *at the sectoral level*: companies in the same sector constitute a traditional form of group for industrial ecology.
- (ii) *via a production/consumption chain*: a cluster of interrelated industrial activities, such as enterprises, form a production or consumption chain.
- (iii) *at the geographical level*: a group of enterprises geographically connected in a business park would provide opportunities for industrial ecology.

Applying the principles of industrial ecology is a way of incorporating sustainability particularly in the industrial parks; however, sustainable business

¹⁵ *Nationaal Milieubeleidsplan.*

parks have a wider coverage (see the actions below prescribed by the Handbook on Sustainable Business Parks¹⁶, 1998).

The concept of 'sustainable business parks' was first raised in 1997 in the Dutch White Paper on Environment and Economy¹⁷ (Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer et al., 1997) as one of the highlights¹⁸. This was a turning point and the concept became widespread. Soon after, the Ministry of Economic Affairs published a Handbook on Sustainable Business Parks. In this handbook, sustainable business parks were defined as 'the cooperation between companies, and between companies and governmental organisations, oriented towards improving the companies' economic performance, reducing the environmental pressure, and enabling a more efficient use of space' (Ministerie van Economische Zaken, 1998:9). Sustainability, in the context of business parks, encompasses a number of interrelated themes. As such, two groups of actions were identified in this handbook, which can contribute to sustainable business parks. These are: (i) actions aimed at sustainable spatial arrangements; and (ii) actions aimed at sustainable business processes (see also Pellenburg, 2002, who elaborated on these actions).

Sustainable spatial arrangements take place physically in the area designated for the business park and in its vicinity. The actions are:

- more intensive use of space;
- public utilities with many useful effects;
- joint commercial firm facilities; and
- multimodal transport and high-quality public transport (Ministerie van Economische Zaken, 1998:11).

These actions can be implemented at the planning and design phases of the business park and primarily require the involvement of municipalities, as well as the companies.

Actions aimed at *sustainable business processes* can, however, be taken by the companies, which are located in the business park. These companies can have:

- exchange of energy, raw materials and water;
- joint use of utilities and firm functions;
- collective gathering and removal of waste materials; and
- combined transport of goods and people (Ministerie van Economische Zaken, 1998:10).

¹⁶ *Duurzame Bedrijventerreinen: Handreiking voor het Management van Bedrijven en Overheden.*

¹⁷ *Nota Milieu en Economie: Op Weg naar een Duurzame Economie.*

¹⁸ In Dutch: *boegbeeld.*

The combination of the above-mentioned actions evidently raises the need for policy integration in the business parks. As a matter of fact, there is widespread acceptance that integrating decisions across sectors such as land-use planning, transport and environment policy is crucial for sustainable development (see Geerlings & Stead, 2003). As such, the integration of various policy areas is needed where the sustainability of the business parks is concerned. Spatial economic policy sets the major contours of the (sustainable) business parks policy in the Netherlands. Following that, various cross-sectoral themes are highly relevant. Coenen (1997:172) refers to Dutch environmental policy as being characterised by cross-sectoral integration. Parallel to that, sustainability in a business park is related to infusing the environmental dimension into spatial-economic planning, transport and infrastructure, energy, building regulation, water management, waste management, etc. Moreover, the integration of the planning, design and activities of the business parks with the local built environment and natural environment is essential. Dealing with the cross-sectoral integration requires the simultaneous cooperation of a group of companies, ideally under a park management body, together with the local authority. In addition, the environmental procedures involve participation of different governmental and societal actors by means of public hearings and the right of appeal.

In the Dutch national policy context, a number of programmes and documents have been produced until 2004, which were relevant for the sustainable business parks. These are: the Sustainable Business Parks Programme encompassing the period of 1999-2003; the Policy Document on Regional Economic Policy (Ministerie van Economische Zaken, 2004b); and the Business Parks Action Plan (Ministerie van Economische Zaken, 2004c). During 2004-2008, the focus was relatively less on sustainability and more on the ongoing activities concerning the restructuring/redevelopment and quality of business parks. Since 2008, sustainability in the business parks has been back on the agenda as well as the ongoing attention to the restructuring of the business parks. Let us now briefly examine the developments regarding sustainable business parks policy in the Netherlands, including a concise overview of some policy programmes and documents.

Sustainable Business Parks Programme, 1999-2003

The Ministry of Economic Affairs started the Sustainable Business Parks (SBP) Programme in 1999. In the first two years, the SBP Programme focused on the energy theme [financed by the Decree on Subsidies for Energy Programmes (BSE)¹⁹]. Business parks with a minimum area of 15 ha were eligible for subsidies provided under the Subsidy Regulation of the BSE for the following project trajectories:

- feasibility projects;
- research and development projects; and

¹⁹ *Besluit Subsidies Energieprogramma's*.

- knowledge transfer projects.

The objectives of the SBP programme were:

- promoting cooperation between the companies established in these business parks and the government;
- minimising the use of fossil energy and minimising the environmental burden;
- achieving the efficient and multiple use of space; and
- improving the companies' economic results.

Table 1.2: Evolution of the Dutch Sustainable Business Parks Programme

Years	1999-2000	2001-2003
Size	Min 15 ha	Min 10 ha
Focus	Energy	Environmental themes including energy
Financial source	Decree on Subsidies for Energy Programmes (BSE)	Framework Law Subsidies of the Ministry of Economic Affairs
Type of projects	<ul style="list-style-type: none"> - feasibility projects - research and development projects - knowledge transfer projects 	<ul style="list-style-type: none"> - orientation projects - development projects - technical feasibility studies - organisational feasibility studies

Source: Ministerie van Economische Zaken (2004a).

However, as can be observed in Table 1.2, some changes were introduced in the programme. During the mid-2000s, it was decided that the subsidy regulation would no longer be based on the Decree on Subsidies for Energy Programmes, but on the Framework Law Subsidies of the Ministry of Economic Affairs²⁰. The most important reason for this change was the interest in other relevant environmental themes, as well as in energy saving.

The objective of the programme was reformulated in 2001 apart from the cooperation aspect which was preserved. The programme was still specifically oriented to the cooperation possibilities, which would lead to the synchronised improvement of environmental and economic performance. The changes, which were introduced in the new phase, were that: (i) the minimum size of business parks eligible for the subsidy was reduced from 15 to 10 ha; and (ii) the eligible project categories were redefined. These were:

- orientation projects: compiling an inventory of relevant environmental streams and the promising environmental themes;
- development projects: making a master plan in which at least two promising environmental themes are worked out;
- technical feasibility studies; and
- organisational feasibility studies.

²⁰ *Kaderwet EZ subsidies.*

Although the programme took 5 years (1999-2003), ongoing projects continued during 2004-2005. There were 252 projects conducted within the SPB programme, corresponding to 25 per cent of the total business park areas in the Netherlands. 43 per cent of these projects were led by the municipalities; 35 per cent by business associations and Chambers of Commerce; 16 per cent by provinces, project developers, consultancy companies, and energy and water providers; and 6 per cent by companies.

Regarding the effects of the SBP programme, 21 per cent of the respondents were of the opinion that the most important effects were gained by saving energy and raw materials; 18 per cent by collective waste contracts; and 15 per cent by improving intensive spatial use. The effectiveness of the SPB programme was related to its contribution to awareness-raising, – rather than to an improvement of performance with respect to sustainability – and promoting cooperation between government and companies (Ministerie van Economische Zaken, 2004a).

In addition to the projects mentioned above within the SBP programme, the Ministry of Economic Affairs had another regulation, i.e. the Regulation for Stimulating Sustainable Business Parks²¹. The Netherlands Agency for Energy and Environment (NOVEM²²) implemented this Regulation, together with the business parks. The selected themes for sustainability were: waste/reuse, sustainable building, energy, facilities, quality, landscape/ecology, environment, spatial use, transport and water management. Each of these themes was attached a level of ambition divided into four categories (from high ambition to low ambition). The business parks which were granted the subsidy focused on a range of these themes, assigning high ambition level to some of them and a lower ambition level to the others (Ministerie van Economische Zaken & Novem, 1999 and 2000).

The Policy Document on Regional Economic Policy²³ (2004)

This brief document on regional economic policy (Ministerie van Economische Zaken, 2004b) appeared as an implementation programme of the White Paper on Spatial Strategy. It was not a specific document on (sustainable) business parks but a document, characterising policy change at the national level, involving a shift from a thematic focus to a focus on regions. This shift stemmed from the idea that ‘regional economies were the foundation stone of the national economy’ (Interview with Maarten van Leeuwen, November 2005; Interview with Johan Visser, February 2006).

This policy document described the government’s economic agenda for six Dutch regions, which involved exploiting the comparative advantages of the regions rather than helping deprived regions to catch up. In addition to these regions,

²¹ *Stimuleringsregeling Duurzame Bedrijventerreinen.*

²² *Nederland Organisatie voor Energie en Milieu.*

²³ *Pieken in de Delta: Gebiedsgerichte Economische Perspectieven.*

there were six²⁴ national economic priorities identified: One of these priorities was called 'Top projects', related to developing and restructuring 50 large regional industrial parks with a minimum area of 150 ha and involving companies of Environmental Category 4 or higher²⁵.

In this document, a special section was allocated to the industrial parks. This section highlighted a number of points such as the need to improve the quality of industrial parks; and the need for new industrial parks, especially in regions such as North Brabant and the Randstad where there was a pressing need (Ministerie van Economische Zaken, 2004b:33). However, the influence of this document on the national business parks policy remained limited.

Action Plan for Business Parks (2004)

In 2004, the Ministry of Economic Affairs (2004c) produced an Action Plan for Business Parks²⁶, as an implementation programme of the White Paper on Spatial Strategy²⁷ (Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer et al., 2004). By this Action Plan, the Ministry of Economic Affairs aimed to (i) develop generic and specific policy, and, (ii) overcome bottlenecks by focusing on more concrete results. *Generic policy* was related to finding solutions for ongoing problems regarding for example park management, safety, accessibility etc. *Specific policy* was related to contributing to the implementation of Top Projects programme, as mentioned in the Policy Document on Regional Economic Policy (see above section). The identified bottlenecks were categorised as organisational, financial, rules and regulations- and knowledge-related bottlenecks; and there were measures suggested for each category of them (Ministerie van Economische Zaken, 2004b). Remarkable is that most of these measures were related to improving the process of cooperation and sharing of knowledge.

Dutch Business Parks Policy since 2004²⁸

Following the ending of the SBP programme in 2003, the sustainability of the business parks was no longer as prominent on the national policy agenda. There was, however, increasing attention for the restructuring of the business parks, especially the obsolescent industrial parks. This continued for some years together with the attention for the quality of business parks. By 2008, the

²⁴ The other five economic priorities are: mainports, economic core areas, priority main connecting axes, regional innovation policy, and urban economy & tourism.

²⁵ Environmental Category 4 refers to the activities, which due to their nature, must be separated (at least 200 m) from the residential neighbourhoods by, for example, green zones, park or water. Environmental Category 5 refers to the activities, which due to their nature, must be reasonably far (at least 500 m) from the residential neighbourhoods. Environmental Category 6 refers to the activities, which due to their nature, must be located only at a large distance (at least 1500 m) from the residential neighbourhoods (Gemeente Apeldoorn, 1999).

²⁶ *Actieplan Bedrijventerreinen*.

²⁷ *Nota Ruimte*.

²⁸ This section is based on information provided by the Dutch national government. Retrieved from: <http://www.rijksoverheid.nl/onderwerpen/bedrijventerreinen/rijksbeleid-bedrijventerreinen>

sustainability theme became more evident on the Dutch business parks policy agenda as well as the ongoing interest in restructuring the obsolescent industrial parks. The Ministry of Economic Affairs and the Ministry of Housing, Spatial Planning and the Environment developed a common policy for the business parks, under the light of a two-fold awareness of the problematic, that: (i) some new business parks were adversely affected by vacancies, and (ii) some obsolescent business parks were in need of restructuring. This new policy involved the following priorities:

- the careful planning and sustainable establishment of the new business parks;
- the prevention of the obsolescence of the existing business parks by stimulating their sustainable management and maintenance by means of, among other things, park management;
- the speeding-up of the restructuring of 6500 ha until 2013;
- the encouragement of regional cooperation directed towards the competitive and sustainable management of the business parks in a region; and
- the commercialisation of the establishment and management of the business parks.

In addition to the new policy, two other developments took place in 2008. *First*, a taskforce was set up in order to (re)develop the business parks. *Second*, this task force launched an advisory report called ‘Opportunities for Quality – A Development Strategy for the Business Parks’²⁹ (Taskforce (Her)ontwikkeling Bedrijventerreinen, 2008).

An important aspect of the new approach is the stated emphasis on the need for realistic planning of the demand and supply of the business parks. The municipalities and provinces often overestimate the need for business parks. Moreover, municipalities do not satisfactorily check whether their plans for new business parks conform to each other. Therefore, there are more business parks available than needed. The oversupply of business parks causes low land prices and waste of space. The government would like to adopt more careful planning, based on reasonable economic growth instead of the most optimistic growth scenarios.

The execution of the new approach for the business parks follows three main lines: In the *short term*, the ‘learning by doing’ approach is adopted. In 16 pilot projects, knowledge and experience will be accumulated related to the:

- establishment of new, and refurbishing of, old business parks;
- land pricing policy;
- regional funding;

²⁹ *Kansen voor Kwaliteit: Een Ontwikkelingsstrategie voor Bedrijventerreinen.*

- regional development companies; and
- cooperation with the market parties.

In the *medium term*, the approach is to speed up the restructuring of 15,800 ha of business parks. It was agreed with the municipalities and provinces that, until the end of 2013, there would be 6500 ha (extra) areas to be restructured. This was indeed according to the Covenant for Business Parks 2010-2020, signed in November 2009 by the Ministry of Housing, Spatial Planning and the Environment and the Ministry of Economic Affairs, the umbrella organisation of the 12 Dutch provinces (IPO³⁰) and the Association of the Dutch Municipalities (VNG³¹). The main contours of a new, sustainable and economically responsible business parks policy were set in this Covenant.

There were five points agreed in the Covenant for Business Parks 2010-2020:

- a maximum 11,015 ha of new business parks will be established by 2020;
- the national government will allocate approximately EUR 400 million (2009-2013) for the restructuring;
- the municipalities will work together at the regional level for the planning and (re)development of the business parks. The provinces are to monitor this process;
- park management (sustainable management) will need to be applied in order to preserve the quality of the business parks and to prevent obsolescence; and
- the provinces will take responsibility for the cleaning up of 6500 ha obsolescent business parks. They have drafted a provincial restructuring programme for this reason.

In November 2009, an implementation document was created by the Work Group under Jorritsma, the Queen's Commissioner in the Province of Friesland. This document was called 'Guidelines for the Regional Opportunities for Quality'³². It enabled the provinces and municipalities to initiate execution based on the Covenant for Business Parks.

In the *long term*, the strategy is oriented towards professionalisation / commercialisation³³ of the market for the business parks. This is expected to lead to a new approach in which maintenance and park management are conducted by companies. In addition to this, the careful matching of regional demand and supply should contribute to this process. The desired effect is to prevent a new round of restructuring over the next 10 years. As such, the same parties who concluded the Covenant initiated, in July 2010, the start document 'Roadmap towards the professionalisation/commercialisation of the business parks

³⁰ *Interprovinciaal Overleg.*

³¹ *Vereniging van de Nederlandse Gemeenten.*

³² *Handreiking Regionale Kansen voor Kwaliteit.*

³³ In Dutch: *verzakelijking.*

market³⁴. The rationale behind this initiative originated from the disadvantages of the fragmented land ownership structure of the business parks. That is, companies purchase the land by lot; therefore, private parties have less interest in the development and exploitation of the business parks as a whole. This initiative adopted a long term strategy in order to maintain the growth and the value of the business parks by adopting a professional and regional³⁵ approach. This meant the active (financial) involvement of the private parties such as investors, project developers, final users, regional development companies in cooperation with the governmental parties.

Looking back over the evolution of sustainable business parks policy in the Dutch national policy context, *first*, we see a remarkably active period (see SBP programme, 1999-2003); however, the attention was then on awareness-raising about sustainability and promoting cooperation aspects as well as running feasibility projects, rather than a focus on improving performance concerning sustainability. *Second*, restructuring of obsolescent business parks, which have always been in the policy agenda, got a more prominent position since 2004 while sustainability had a lower profile. *Third*, it can be argued that sustainability has been back in the policy agenda since 2008 if not as significant as in the 1999-2003 period. This time it appears as a part of a larger policy context, in which the business parks problematic is visualised as being embedded in the context of regional development policy and restructuring. The ongoing emphasis on the need for cooperation between the provinces and municipalities is still evident in the recent years. A more up to date development is that the private sector is assigned an important role in maintaining the value of the business parks. Therefore, the commercialisation of the business parks market is proposed. However, it is not clear yet to what extent the Roadmap towards commercialisation and the Covenant for Business Parks is being, and will be, implemented.

1.6 Scientific and societal relevance

The scientific relevance of this dissertation will be discussed in three points, and then, its societal relevance will be explained.

The *first* scientific added value of this dissertation is that it draws attention to the need for focusing on the policy outcomes. As such, it attempts to divert the focus in the policy networks studies in the Netherlands, which has primarily been on the policy process. In this dissertation, where policy outcomes are placed at the centre, the aim is to understand the role and influence of policy networks and explain how this influence takes place and which outcomes occur. This is done by conducting an empirical study in the Netherlands based on the Ecofactorij Business Park. However, the need to understand the 'process' is not excluded;

³⁴ Roadmap Naar de Verzakelijking van de Bedrijventerreinenmarkt. Startdocument.

³⁵ In Dutch: *gebiedsgericht*.

instead, this research sees the networking process as instrumental for a better understanding and explanation of how and why certain policy outcomes come about.

The *second* scientific added value of this dissertation is its critical acknowledgment of the dialectical model of policy networks and its attempt to revise it. The dialectical model, originating from a particular strand within the British Interest Intermediation school, offers a framework to explain the interdependence between policy networks and policy outcomes. This framework involves dialectical relationships between four major variables, i.e. network structure, network actors, the broader context, policy outcome. The critical analysis leads to a revision of the dialectical model, in which some detailed specification of the variables is proposed in order to better use the model. Further, a four-step operationalisation of the revised dialectical model is put forward.

The *third* scientific added value of this dissertation is that it attempts to empirically apply the revised version of the dialectical model of policy networks. This empirical application inherently involves two novelties: (i) a new geographical context; and (ii) a new policy field. As such, the revised dialectical model is applied in the Netherlands, i.e. in a new geographical context, whereas the original dialectical model (Marsh & Smith, 2000) was applied in the UK. In addition to that, the model is applied in a novel topic: i.e. sustainable business parks. Embedded in that, the case study highlighted a contested issue in the context of sustainable business parks: energy production by incinerating poultry manure. The original model was applied previously in the UK, but to the agricultural sector, and to the issue of genetically-modified crops.

The *societal relevance and added value* of this dissertation is related to its close look at the dynamics of planning and development of a business park, driven by the sustainability ambitions of a municipality. This dissertation does not provide a roadmap for sustainability, but indicates the need to incorporate it in every aspect of the development of business parks. It explains how certain policy principles are modified and curbed along the way, and how formulated policies have been continuously contested and changed. Sustainability encompasses various cross-sectoral themes; therefore, understanding and explaining how policies related to the objectives of 'sustainable business parks' come about can provide lessons for future initiatives.

In the regular cyclical process of business parks development, some issues may turn out to be highly contentious. An interesting example of that is the proposal of a private investor to invest in a bio-energy plant in the Ecofactorij Business Park based on poultry manure and biomass incineration (as elaborated in the embedded case study). In such cases, policy networks can embody various oppositional voices representing different ethical views and interpretations of scientific facts. This can bring the process to a halt because of the lengthy

procedures involved in granting an environmental permit. Public mistrust can cause enormous delays or even the revocation of the environmental permit, even though the investment proposal meets the technical criteria. This raises the issue of the need to elaborate at the broader level how the mistrust issue can be overcome in potentially controversial investment projects.

1.7 Research methodology

From the methodological perspective, a qualitative approach to policy networks analysis is adopted in this research. In broad terms, it is assumed that there are dialectical relationships between network actors, network structure, the broader context, and policy outcome. It is argued that these mutual relationships help explain how certain policy outcomes occur. Understanding the dynamics of these interwoven relationships requires a thorough examination of the interaction processes, which are not always immediately evident. This requires adopting qualitative research techniques.

1.7.1 Research strategy

'Research strategy' refers to the way of collecting and analysing empirical evidence. The strategy adopted for this research is that of the *case study*. A case study is an empirical inquiry that:

- investigates a contemporary phenomenon within its real-life context; when
- the boundaries between phenomenon and context are not clearly evident; and, in which
- multiple sources of evidence are used (Yin, 1989:23).

What differentiates case study from other sorts of strategies (i.e. experiment, survey, archival analysis and history) is, first of all, the sort of research question: 'How and why' types of questions serve the case study. These types of questions also dominate strategies of experiment and history. However, case study differs from those two in the following ways. In contrast to experiment, the case study strategy does not require control over behavioural events. Furthermore, in contrast to the history, it focuses on contemporary events (ibid., 1989).

Multiple sources of evidence were used for the case study, which ensured data triangulation (ibid., 1989). These sources are policy documents, technical reports, newspaper articles, correspondence between the network actors, personal archives, technical and legal briefing meetings, and semi-structured in-depth interviews.

For the semi-structured in-depth interviews, the *snowball method* and *reputation-based backward mapping* were used to identify the actors of the policy networks on the basis of their respective reputations regarding the development of the

Ecofactorij Business Park, and regarding the bio-energy plant proposal of Fibroned, a private investor, in the Ecofactorij. Initially, interviews, documentary studies and internet searches were used to identify a number of central policy actors, who were asked to name other key actors who had been involved in the policy-making process. These actors were then asked to do the same until [ideally] the policy actors no longer come up with any new names (see Hjern & Porter, 1981, cited in Torfing 2007:31). As Torfing clearly indicates:

The advantage of reputation based backward mapping of the relevant policy actors by means of the snowball method is that it opens up the possibility to map 'informal governance networks that do not necessarily correspond with formal and politically initiated [...] networks. One might at least be able to identify actors who are not part of the formal network structures and explore the role of informal networks vis-à-vis formal ones (ibid.:31-32).

On the basis of this background, semi-structured in-depth interviews were conducted with the representatives of the organisations involved in the Ecofactorij policy network and the networks (the policy community and the issue network, as well as neutral actors) associated with the poultry manure incineration debate around Fibroned's investment proposal. In addition, due to the technical and legal nature of the poultry manure incineration case, technical and legal briefing meetings were held with some of the interviewees.

Research design can be of two types with respect to the number of case studies: single-case design and multiple-case design. Furthermore, there are two more types regarding the unit of analysis: holistic design where there is a single unit of analysis, and embedded design where there are multiple units of analysis. Consequently, these types of research designs can be matched and four types of research designs obtained: (i) single-case (holistic) design, (ii) single-case (embedded) design, (iii) multiple-case (holistic) design, and (iv) multiple-case (embedded) design (Yin, 1989:46-59).

The research design, adopted in this dissertation, has evolved in line with the introduction provided in Sections 1.1 and 1.2. As a matter of fact, it is a 'challenging task to discuss how a research process evolves and how decisions about research methods are made', as rightly stated by Bogason and Zølner (2007:1). The authors mention the 'dynamic frame of reference of research' which indicates 'how during the research project one may modify the research design and questions in the light of results obtained [...]' (ibid.:16). The focus of the dynamic frame of reference for research during the initial research phase of this dissertation was on the environmental dimensions of the transport policies of the business parks. In line with that, the strategy of multiple case (embedded) design had been adopted by then. Let us now look at the initial research design:

Initial research design: multiple-case (embedded) design

The selection of cases in a multiple case design is expected to follow a similar logic to experiments in the natural sciences. Each case must be carefully selected, so that it either (i) predicts similar results (*a literal replication*), or (ii) produces contrary results but for predictable reasons (*a theoretical replication*) (Yin, 1989:53).

Both types of replications were aimed at in my initial selection of four cases: the Ecofactorij Business Park in Apeldoorn; the De Hurk Industrial Park in Eindhoven, and two office parks in Rotterdam: Weena and Brainpark III. The criteria for selecting these business parks³⁶ were:

- (i) Type of business parks: industrial parks (Ecofactorij and De Hurk); and office parks – due to their high employment density (Weena and Brainpark III);
- (ii) Existence of sustainability ambitions: business parks with sustainability ambitions (Ecofactorij and De Hurk) and business parks without sustainability ambitions (Weena and Brainpark III);
- (iii) Location of the business parks: inner city business parks (Weena and De Hurk); suburban business parks (Ecofactorij and Brainpark III);
- (iv) The age of the business park: new (Ecofactorij and Brainpark III) and obsolescent (De Hurk) or existing for a long time (Weena).

The above-mentioned criteria served literal replication and theoretical replication. *Literal replication* could be possible within each sub-category, i.e. industrial parks; office parks; business parks with sustainability ambitions, business parks without sustainability ambitions; inner city business parks; suburban business parks; new business parks; and, obsolescent business parks. *Theoretical replication*, on the other hand, would be possible per category, i.e. industrial parks versus office parks; parks with sustainability ambitions versus parks without sustainability ambitions; inner city business parks versus suburban business parks; and new business parks versus obsolescent business parks.

About 30 interviews were conducted with the actors related to these business parks including the resident companies of the business parks, park management bodies, spatial planning, economic development and transport departments of the municipalities, regional governments and provinces. The major finding was that the passenger transport policy of business parks was either incremental or non-existent even though transport in general terms was an important theme in the local, regional and provincial policy context. This finding, not involving a rich source of information, did not facilitate an in-depth analysis of interdependence between policy networks and policy outcomes in the selected business parks. Therefore, a transformation in the research design was inevitable which led to the current research design (see below).

³⁶ Here, the term ‘business parks’ (in Dutch: *bedrijventerreinen*) is used as a generic term, including office parks.

Current research design: single-case (embedded) design

As was briefly introduced above, the triggering factor which led to the transformation of the research design was the limited implementation of commuter transport policy in the business parks, which did not provide much data for empirical analysis. Therefore, the new research design involved (i) an enlargement of the policy scope within business parks beyond the passenger transport policy therein, and (ii) the decision to focus on a single case, where an in-depth analysis of this enlarged scope could be made. The selected case was the Ecofactorij Business Park in the City of Apeldoorn. Why was the Ecofactorij selected?

First, the availability of abundant material throughout the planning, development and management of the Ecofactorij, concerning other policy fields such as land-use planning and energy (besides transport) provided fertile ground for an interesting, in-depth analysis. *Second*, the Ecofactorij provided a unique case of a municipality's attempt, in the Netherlands, to develop a sustainable business park from scratch. *Third*, the opportunity to examine a business park from the planning and design phase onwards would give insights into understanding network change and policy change.

Therefore, a single-case (embedded) design is adopted in this dissertation. Single-case design is often contested in the social sciences. It is criticised for not being able to lead to generalisations. However, a carefully selected single case is able to provide an in-depth insight into the subject matter. As such, Yin, while recognising critics of this kind of case study, acknowledges the theoretical possibility of rich single case study designs. Likewise, Flyvbjerg (2006:226), who ironically calls the single case studies 'black swans' argues that the strategic choice of case may greatly add to the generalisability of a case study.

What makes the Ecofactorij a strategic case for this dissertation, apart from the fact that it was a unique attempt of a Municipality to develop a sustainable business park? From public policy making perspective, the answer is twofold:

First, it provides an example of a business park with a relatively regular cyclical process of planning and development. The Ecofactorij Business Park had certainly a dynamic policy context, in which strategic interaction between the network actors was evident. Throughout its genesis, various policies were modified or changed, including its sectoral focus, as a remarkable policy change. However, neither the changes in the policy outcomes nor the process accompanying these changes involved major conflicts, except concerning one issue, which led to the embedded case study in this dissertation (see below).

Second, the Ecofactorij Business Park involves a highly contentious issue within its boundaries, which brought turbulence into the relatively regular policy process therein. As such, there was a hot debate related to the investment proposal of Fibroned, which aimed to produce energy in the Ecofactorij by incinerating

poultry manure. This investment idea was publicly contested. The issue went beyond the boundaries of the Business Park and of the Municipality of Apeldoorn since the competent authority dealing with the environmental permits for such investment proposals was the Provincial government (the Province of Gelderland). The presence of such an issue within the Ecofactorij certainly contributed to the richness of the case.

It is important to note that it is not argued here that a business park with a relatively regular planning and development process is always accompanied with a controversial issue. However, from the public policy-making point of view, the presence of two types of policy processes, i.e. involving regular and controversial elements, in this research definitely represents, at least some of the variety of public policy processes in practice. The dual nature of the process in the Ecofactorij Business Park, as such, ensures a representative case of two types of policy making process, which can be encountered during the life cycle of other business parks.

1.7.2 Research questions

Business parks development encompasses various phases such as the planning, design, establishment, and management of business parks. Over the course of these phases, the policy formulation and implementation processes are intertwined, and involves various actors, who form policy networks. The interest of this research lies in understanding the interdependence between policy networks and policy outcomes in the context of business parks.

The main research question is:

How do policy networks and policy outcomes related to the business parks affect each other?

The main research question has an overarching nature. The answer to this question is sought for within the framework provided by the revised dialectical model of policy networks, which involves four key variables (see Chapter 5). As such, in order to understand how policy networks and policy outcomes affect each other, four major research questions are formulated, which lead to the operationalisation of the revised model in four steps: (i) linking the networking stages and the network shape; (ii) linking policy outcomes and policy networks; (iii) analysing the dialectical relationships per policy outcome; and (iv) analysing the dialectical relationships across all policy outcomes.

The key research questions are as follows:

Linking the networking stages and the network shape

Q.1. How are the networking stages and the network shape linked to each other?

a) How do the networking stages change over time?

- b) How does the network shape change over the course of the networking stages?

Linking policy networks and policy outcomes

Q.2. How are the policy outcomes and the policy networks linked to each other?

- a) How are the policy outcomes associated with the network shape?
- b) How are the policy outcomes associated with the networking stages?

Analysing the dialectical relationships underlying each policy outcome

Q.3. How do the actors in the network, the structure of the network, the broader context in which they are embedded, and the policy outcomes interact with each other in each policy outcome?

Analysing the dialectical relationships encompassing all policy outcomes

Q.4. How do the actors in the network, the structure of the network, the broader context in which they are embedded, and the policy outcomes interact with each other across all policy outcomes?

1.8 Structure of the dissertation

This dissertation is composed of two major parts: A theoretical part comprising four chapters (Chapters 2-5), and an empirical part comprising two chapters (Chapters 6-7).

Chapter 1 introduces the context of this dissertation. The concept of business parks and the (sustainable) business parks policy in the Netherlands is introduced. A brief sketch of the policy networks, as the analytical framework of this dissertation, is presented. Subsequently, the scientific and societal relevance of this dissertation is discussed. Finally, the research design, including the research methodology within its evolutionary context is explained; and the research questions are presented.

Following the introduction provided in *Chapter 1* comes the theoretical part of this dissertation, which is developed in the following four chapters:

Chapter 2 provides an overview of the policy networks literature. It begins by reviewing a range of definitions and typologies of policy networks. Then, the two major approaches in the policy networks literature are examined: first, there is the literature that mostly comes from continental Europe, which focuses upon networks as a mode of governance; and, then, there is the British literature, which sees policy networks as a form of interest intermediation. Further, the path taken by the British, rather than the continental European, literature is followed owing to this dissertation's special interest in the mutual relationships between policy networks and policy outcomes. The chapter ends with the dialectical model

of policy networks developed by Marsh and Smith (2000) within the British Interest Intermediation school.

Subsequently, *Chapter 3* examines the rise and development of the dialectical model. This examination covers, first, an assessment of the previous approaches on which the dialectical model is based. Then, a consideration of the theoretical evolution of the dialectical model is presented, as well as the critiques of Marsh and Smith's model (raised by other scholars), and Marsh and Smith's response to these critiques.

In *Chapter 4*, I make a critical review of the utility of the dialectical model of the policy networks. This review closely examines the model and its empirical application. This chapter particularly provides the starting point for Chapter 5, in which a revised version of the dialectical model is proposed.

Finally, in *Chapter 5*, on the basis of my critical review of the UK policy networks literature, including the dialectical model, I present a revised version of the dialectical model, which I utilise in my empirical work. The revised dialectical model of networks: (i) spells out the stages of networking; (ii) elaborates on the policy outcomes; (iii) discusses the meaning of network structure and agency; and, finally, (iv) presents a diagrammatic scheme of the revised model, in the hope that it will lead to a better understanding of the revised version and inform its empirical application. Then, I propose an operationalisation of the model in four steps, which involve (i) examining the interrelationships between networking stages and network shape; (ii) examining the interrelationships between policy outcomes and policy networks; (iii) undertaking an analysis of the dialectical relationships per policy outcome; and (iv) undertaking an analysis of the dialectical relationships across all policy outcomes.

The empirical part of the dissertation is composed of the following two chapters.

Chapter 6 presents the Ecofactorij Business Park of Apeldoorn as the single case study of this dissertation. This case is identified as a unique attempt of a municipality in the Netherlands to develop a sustainable business park. The case is analysed in four steps, as suggested by the revised dialectical model of policy networks. First, the various stages of networking in the Ecofactorij are identified. Then, specific attention is paid to the change in the network shape over the course of the networking stages. Second, the policy scope of the Ecofactorij is demarcated; and the policy outcomes are identified. Subsequently, the policy outcomes are linked to the networking stages and the network shape. Third, each of the identified policy outcomes is examined in terms of their dialectical relationships. Finally, the dialectical relationships between the network actors, the network structure, the broader context, and the policy outcomes are analysed. At the end of Chapter 6, a retrospective account is presented regarding how the revised dialectical model works throughout the Ecofactorij case.

Chapter 7 provides a case study, which is embedded in the case of the Ecofactorij. This case study puts a magnifying glass on a specific process which involves the decision making related to the investment proposal of Fibroned, a facility which wanted to produce energy in the Ecofactorij Business Park by incinerating poultry manure. Following the same four-fold analysis of the revised dialectical model of policy networks as applied to the Ecofactorij case, this case first identifies each of the stages of networking related to the Fibroned case, and then highlights the change in the network shape in the course of the stages of networking. Second, the policy scope involving the debates on industrial poultry farming and sustainable poultry farming is established and the policy outcomes are identified. Following that, the policy outcomes are linked to the stages of networking and the network shape. Third, the dialectical relationships between the key variables of the model, underlying each identified policy outcome are examined. Finally, an analysis encompassing all policy outcomes is undertaken based on the dialectical relationships between the network actors, the network structure, the broader context, and the policy outcomes. At the end of Chapter 7, a retrospective account is presented regarding how the revised dialectical model works throughout the Fibroned case.

After the theoretical and empirical parts, *Chapter 8* provides conclusions and recommendations. First, conclusions based on the research questions are presented; and then policy recommendations are provided. Second, conclusions regarding the revised dialectical model of policy networks and its limitations are discussed. Third, conclusions and recommendations regarding the research methodology are envisaged. Finally, recommendations are made for future research.

THEORETICAL PART

Chapter 2

An overview of the policy networks literature

2.1 Introduction

This chapter contains an overview of the policy networks literature. Following a brief look at the definitions and classification of the policy networks (2.2), I provide an overview of the two approaches to policy networks (2.3).

First, within the Governance approach to the policy networks (2.3.1), I examine the background, theoretical standpoint, and major strengths and weaknesses of the two major schools, i.e. the German school (2.3.1.2) and the Dutch school (2.3.1.3). In addition, I briefly mention three other interesting and relevant studies linked to the Governance approach, including (i) the recently developed work of Danish scholars on democratic network governance and meta-governance; (ii) the new public governance approach; and (iii) implementation studies (2.3.1.4).

Second, I delineate the evolution of the British Interest Intermediation approach to policy networks (2.3.2). This typology forms the background to the analytical framework of this research. The critical overview of this approach underpins the dialectical model of policy networks which will be elaborated in Chapter 3.

2.2 Policy networks: definitions and classifications

The concept of 'network' is frequently used as a metaphor in various disciplines of both the social sciences (such as sociology, economics, business administration and public policy) and the technical sciences (such as microbiology, ecology, and computer science) (Börzel, 1998). What makes this concept appealing for a divergent range of disciplines is probably its ability to reflect both complexity and interdependence. Whether referring to cells, living organisms, individuals or organisations, the network concept highlights the presence of a number of interdependent actors, who interact, consciously or unconsciously, on an issue in question.

Within public policy research, it has been common to talk of policy networks, although no single accepted definition of the concept exists. Instead, there are a range of definitions or conceptualisations. As Börzel (1998:254) emphasises:

'Some see policy networks as a *metaphor* to denote the fact that policy making involves a large number and wide variety of actors. Others acknowledge them to be a valuable *analytical tool* to analyse the relations between actors interacting with each other in a given policy sector.

In broad terms, Marin and Mayntz (1991:15) see policy networks as: 'the social infrastructure of policy formulation and implementation'. This is an example of a metaphorical conception, which emphasises the indispensable role played by policy networks in contemporary public policy making. Such a conception underpins the view that policy networks are best seen as a governing structure, an idea elaborated in Section 2.3.1. In this vein, Börzel provides a minimal, or lowest common denominator, definition of policy networks:

Policy networks are a set of relatively stable relationships which are of [a non-hierarchical] and interdependent nature linking a variety of actors, who share common interests acknowledging that cooperation is the best way to achieve common goals (Börzel, 1998:254).

The features such as 'stable relationships', 'non-hierarchical' and 'cooperation' imply a positive meaning attributed to the policy networks. A more neutral approach comes from Bevir and Richards (2009:3) who state that: 'policy networks consist of government and societal actors whose interactions with one another give rise to policies'.

Further, definitions vary with respect to what is meant by both the 'policy' and the 'network' components of the term. For instance, the *policy* component variously applies to:

- varied phases of the policy process i.e. the identification, definition and resolution of policy problems, and the implementation of policy (Bressers et al., 1994; Hill & Hupe, 2009);
- policy development and implementation (Grin & van de Graaf, 1994); policy formulation and implementation (Börzel, 1998; Peters, 2007; Sørensen & Torfing, 2007); policy-making and implementation (Klijn, 2008);
- policy problems or policy programmes (Hufen & Ringeling, 1990, cited in Bressers, 1995); and
- policy execution (O'Toole, 1997).

On the other hand, the *network* component of the term is usually spelled out in terms of the characteristics of the network actors and of the relations between them. Here, a number of components or characteristics of the network are identified, such as:

- autonomy (Schneider, 1992);
- interdependency (Bressers et al., 1994; Schneider, 1992);

- durable patterns of interaction and communication (Grin & van de Graaf, 1994; Hufen & Ringeling, 1990, cited in Bressers, 1995);
- informal, decentralised, and horizontal relations (Kenis & Schneider, 1991); and
- inter-organisational relations (Hanf & Scharpf (eds), 1978; Marin & Mayntz, 1991).

Various definitions of policy networks offer a set of characteristics. Indeed, Marin and Mayntz (1991) provide an extensive list of the key elements of the policy networks. According to them, policy networks require collective action and are:

- anchored in policy sectors;
- composed of corporate actors;
- structured in terms of inter-organisational relations;
- predominantly informal and horizontal, but not without asymmetric interdependencies, which means power relations;
- functionally-defined by the formulation and implementation of policy;
- without stable central or hegemonic actors (...);
- characterised by strategic interaction (and a predominance of antagonistic cooperation or mixed-motive games).

This list is a comprehensive one, since it covers diverse aspects of policy networks, ranging from the policy element to the characteristics of the actors and the relationships between them. However, it does not mean that all these characteristics are present simultaneously in a particular policy network, nor that this is an exhaustive set of the possible characteristics of policy networks.

Rather than defining the characteristics or elements of policy networks, other scholars have approached policy networks from different angles. For instance, some scholars locate policy networks in policy sub-sectors (see Richardson & Jordan, 1979; Wilks & Wright, 1987, cited in Rhodes & Marsh, 1992a:15-17). A series of case studies conducted in the Marsh and Rhodes edited collection (1992) on the policy networks in Britain indicates that the policy networks concept can be used both at the sectoral and sub-sectoral level (Marsh & Rhodes, 1992:254).

In addition to Marin and Mayntz's (1991) list above, which includes corporate actors, there are others, who acknowledge the role of individuals (Bressers et al., 1994; Dowding, 1995; Richardson & Jordan, 1979; Wilks & Wright, 1987 cited in Rhodes & Marsh, 1992a:17).

In another vein, *resource dependencies* appear as a core element of policy networks. Resource dependencies within the policy networks can involve an exchange of, and/or a pooling of, resources. Actors in networks possess and use their resources, but, in addition, resources have a crucial influence upon the network structure. Resource dependency is also related to power relations. In the

policy networks, power is a relation based on dependency; this is in contrast to the way power is seen in the pluralist tradition, where it is usually characterised as zero-sum (Rhodes, 1981, cited in Smith, 1993:6-7).

In Benson's often-cited definition of policy networks, resource dependencies appear to have a prominent role:

Policy networks refer to a complex of organisations connected to each other by resource dependencies and distinguished from each other by breaks in the structure of resource dependencies (Benson, 1982:148).

In addition to the large number of definitions of policy networks, there are also a great number of classifications of them. Most classifications aim to distinguish, and name, different types of networks, within which there are subtle variations in the relations between the state and civil society. Many of these classificatory schemes or typologies are derived from the debates within pluralism and neo-corporatism, and create terminological confusions due to neologisms such as 'pressure pluralism', 'state corporatism', 'societal corporatism', 'group sub-government', 'corporate pluralism', 'iron triangles', 'clientelism', and 'meso-corporatism' (Börzel, 1998:256).

Van Waarden's attempt to classify networks is perhaps the most exhaustive one. He specifies seven dimensions of policy networks, upon which he bases models of state/business relationships (Van Waarden, 1992:33-38):

- actors, sub-categorised by number and type;
- functions, depending on the needs, intentions, etc. of the actors;
- structure, seen as the pattern of relations between the actors;
- degrees of institutionalisation;
- rules of conduct, for example, conventions affecting interaction between the actors;
- power relations, resulting from the distribution of resources and needs among actors; and
- actor strategies.

Van Waarden acknowledges that there is much confusion in defining and operationalising different types of state/business relationships. In the end, he focuses on the following dimensions of these relationships:

- the number and type of societal actors involved;
- the major function of the network; and
- the balance of power within the network (Van Waarden, 1992:49).

On this basis he identifies 11 types of policy networks, most of which are associated with pluralism and corporatism (for other attempts to categorise the policy networks based on other sets of criteria, see Atkinson & Coleman, 1989;

Coleman & Skogstad, 1990, cited in Hay, 1998:34; Jordan & Schubert, 1992; Kriesi, 1994, cited in Börzel, 1997; Rhodes, 1983 and 1987; Wilks & Wright, 1987 cited in Rhodes & Marsh, 1992a).

This leads to the observation that classifying networks is one of the key problems in policy network analysis. Yet, it is crucial to classify them and establish their characteristics if the links between policy networks and policy outcomes are to be established (Marsh, 1998a). Unsurprisingly perhaps, Marsh favours the classification developed by Marsh and Rhodes (1992), which sees policy networks as a generic term and places the network types along a continuum. Policy communities are placed at one end of this continuum and are characterised by a limited membership and a commitment to policy stability. At the other end are the issue networks, which display loose membership characteristics and result in policy instability. This classification is discussed at more length below (see 2.3.2.3). Using another terminology, i.e. heterogeneous and homogeneous networks, Börzel (1997 and 1998) refers to another categorisation which resembles that of policy communities and issue networks. As such, heterogeneous networks involve different interests, and resources. Consequently, in such networks, actors are interdependent, mediate their interests and exchange their resources. It is interesting to observe that the heterogeneous networks of Börzel resemble the issue networks of Rhodes and Marsh. In contrast, in homogeneous networks, actors have similar interests and resources. While Börzel mentions professional networks and epistemic communities as examples of the homogeneous type of networks, this category resembles the policy communities of Rhodes and Marsh.

Marin and Mayntz (1991:18) suggest that three other dimensions are important when studying policy networks:

- different *territorial levels*, such as international, nationwide, regional and local, that are involved in networks;
- their *stability* across time and space (i.e. policy networks that operate across decision events); and
- the *action focus* of the policy networks. Here, they distinguish between corporatist policy networks, which play an important macro-political role in dealing with a stream of different economic policy issues, sectoral or sub-sectoral networks, and networks formed around a single issue.

As such, definitions and classifications of policy networks provide fertile ground for further research. However, our attention now turns to the two major approaches to the study of policy networks.

2.3 Major approaches to the study of policy networks

Within the extensive literature on policy networks, two³⁷ major approaches can be distinguished which have attempted to explore the concept of policy networks. The first approach views policy networks as a form of *governance*. It was developed in the continental Europe, particularly in Germany and the Netherlands. Later, Danish scholars contributed to the Governance school with their work on democratic network governance and meta-governance. In addition, the new public governance of Osborne and the literature on the implementation studies is briefly examined.

The second approach views policy networks as a type of *interest intermediation*, and has been dominant in the British, and to some extent the American, literature.

There are different opinions about the theoretical origins of policy network studies. Klijn (1997) presents a thorough consideration of these origins focusing on three disciplines: organisational science; policy science; and political science. In his view, the contribution of each of these disciplines has evolved through several stages, which are outlined in Figure 2.1.

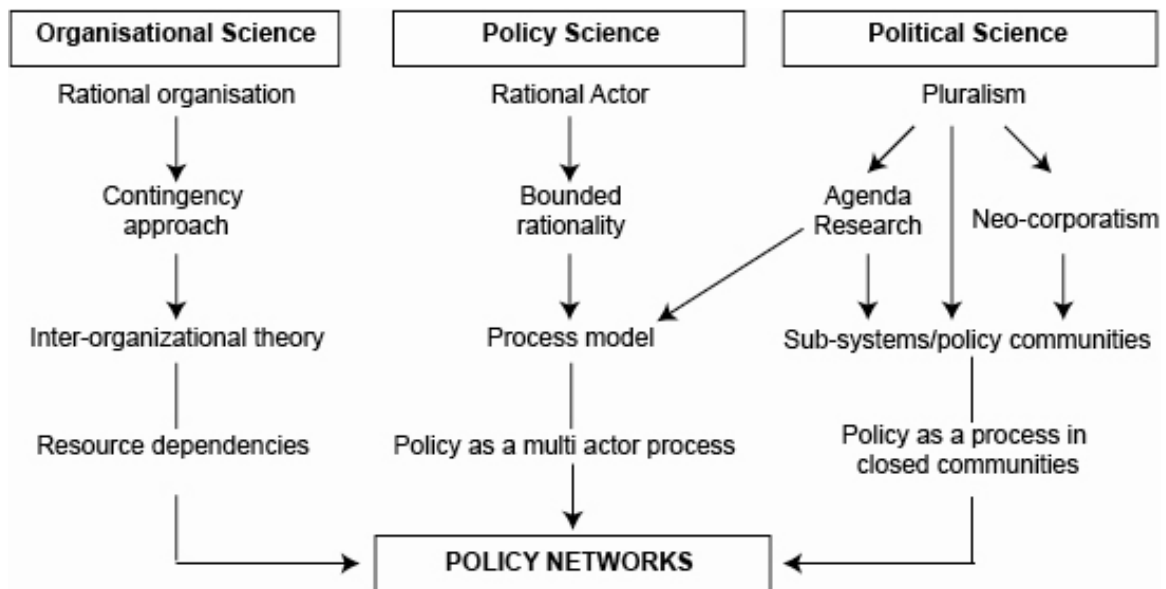


Figure 2.1: Theoretical roots of the policy networks concept
Source: Klijn (1997:29).

³⁷ Klijn (2008), on the other hand, talks about a three-fold classification of types of research in networks: research on policy networks (*as in the British school*) and research on governance networks (*as in the German, Dutch and Danish schools*); and research on inter-organisational service delivery and policy implementation (notes in parentheses are by the author of this dissertation).

Obviously, there is a complex story involved in how each discipline has contributed to the policy networks literature. However, here, I am only concerned with tracing the roots of the two approaches to network analysis identified above, i.e. policy networks as a form of governance; and as a type of interest intermediation.

The theoretical roots of the *Governance approach* can be found at the intersection between 'organisational science' and 'policy science'. This tradition is often called 'network governance', and it is mainly conducted in the continental Europe. However, the focus varies in the two major schools, i.e. the German and Dutch schools. The German school has largely evolved within the domain of organisational science. This school is based on 'interorganisational relations' and 'resource dependencies'. However, the policy science domain has also contributed to this literature and a focus upon 'policy as a multi-actor process' is at the core of the Governance approach. The focus of the Dutch school is, differently, on the 'process model' and on 'policy as a multi-actor process' and, as such, is located within the domain of policy science. However, resource dependency is also crucial to the Dutch school, so their work is also influenced by organisational science.

The British school's focus upon Interest Intermediation has evolved mainly from within the domain of political science, and, indeed, the concept as used in the UK developed out of the literature on: (i) pluralism; (ii) neo-corporatism (see Schubert & Jordan, 1992); and (iii) sub-governments (see Jordan, 1990, cited in Rhodes & Marsh, 1992a:4; Marsh, 1998a:4). These origins are examined in more detail in Section 2.3.2.1.

2.3.1 Policy networks as a form of Governance

2.3.1.1 Background³⁸

It is a commonplace that in contemporary societies there has been a continuous and quickening process of transformation in the economy, culture and politics. Different authors have characterised these changes in terms of a move towards 'late-modernity', 'post-modernity,' 'reflexive modernity' (Beck, 1994, cited in Marsh et al., 2007), or 'institutional reflexivity' (Giddens, 1994, cited in Marsh et al., 2007); however, the different terminology need not concern us here. The key point is that all argue that the increased complexity, dynamism, and diversity in contemporary society have led to, among other things, fundamental changes in the polity.

In the political sphere, different authors have highlighted the decline of the nation state, the decline of the welfare state, and the growth of different forms of politics. For instance, according to Beck (1994), the 'authoritarian decision and action

³⁸ The first two paragraphs of the background to the governance approach are based on Marsh et al. (2007).

state' is being replaced by a new 'sub-politics' which is based on communities and localities and involves activities outside of the traditional government. In a similar fashion, Giddens (1994) argues that 'flexible and decentralised systems of authority', as a new form of democracy, replace bureaucracies and hierarchies; although not uniformly. However, the main focus in this literature has been on the emergence of networks as a new and dominant form or mode of governance, replacing hierarchy and markets. It is this putative development which concerns us here, as it is at the core of the European approach to policy networks.

In the face of the contemporary societal changes, 'differences between public and private spheres get blurred/vague' (Pestman & Van Tatenhove, 1998:256; Bressers & Kuks, 2001:78); modern state-society relationships have increasingly become blurred (Laumann & Knoke³⁹, 1987:3); and 'the state is hollowed out' (Rhodes, 1997; Howlett, 1999). At the same time, public policy making has increasingly become an arena in which policy networks have become actively involved. In this view, government is no longer the sole policy maker, but, rather, is one of the partners in the policy-making process; in particular, it is involved in relations with private interests. As such, 'the notion of policy networks (...) signals a real change in the structure of the polity' (Mayntz, 1993, cited in Börzel, 1998:260).

The rising emergence of such networks has, unsurprisingly, attracted some academic interest, and, as a result, a body of literature was developed mainly in continental Europe, dealing with networks as a mode of governance. The major contributions to the development of this approach were made by the scholars from the Max Planck Institute in Germany; and Erasmus University Rotterdam and Delft University of Technology in the Netherlands. Both these schools agree that policy making takes place in a complex environment involving various actors. However, they differ from each other in other respects, and a brief examination of these schools is presented below.

For the sake of a more complete – if not detailed – overview of the Governance school, three other studies will be outlined (2.3.1.4), in addition to those of the German (2.3.1.2) and Dutch schools (2.3.1.3): democratic network governance and metagovernance studies by Danish scholars from Roskilde University; the new public governance approach; and the implementation studies.

³⁹ Although coming from the tradition of structural network analysis, Laumann and Knoke have coined a new term, which refers to the blurring of the distinction between the state and civil society: 'the organisational state'. They argue that: 'Because policy-making results from complex interactions among governmental and non-governmental actors, the organisational state encompasses both kinds of actors within its boundaries. The actors are formal organisations, which participate in the organisational state with rational motives' (Laumann & Knoke, 1987).

2.3.1.2 The German school

The German school of Governance networks was primarily based on the work of scholars from the Max Planck Institute. The major element of the Max Planck Institute's conception of policy networks is that they reflect a new form of governance, in contrast to the existing forms of governance, i.e. hierarchies and markets. As Marsh (1998a:8) summarises:

Hierarchy is a mode of governance characterised by a very close structural coupling between the public and private level, with central coordination, and thus control being exercised by government. In contrast, markets as a form of governance involve no structural coupling and outcomes result from the market-driven interplay between a plurality of autonomous agents drawn from the public and private spheres.

As one feature, 'hierarchy' involves bureaucracy or coordination by administrative order (Rhodes, 1997), whereas privatisation and deregulation are the ways of operationalising 'market' as a mode of governance.

However, there are different opinions about the position of policy networks with respect to other forms of governance (Marsh, 1998a:8). Some scholars posit the network as an alternative to both markets and hierarchies (see Kenis & Schneider, 1991), some see it as a hybrid involving both (Mayntz, 1994, cited in Marsh, 1998a:8), others argue networks exclude hierarchies and markets but involve much in between (O'Toole, 1997), while yet others consider it as linked to hierarchy, but not to markets (Benz, 1995, cited in Marsh, 1998a:8). Although it has been argued by many scholars that relations within the policy networks are largely horizontal and non-hierarchical, it is debatable in my view whether they are absolutely free from other forms of governance. As such, a policy network may involve hierarchical elements with or without market or hierarchy. In a policy network, actors, such as provincial and municipal authorities, with financial, regulatory and legislative power may be considerably dominant in comparison with the other actors who do not have these resources. The macro-political structure influences the extent to which hierarchy might be present in such a network, or, to put it another way, the level of centralisation in the state structure determines the degree of hierarchy involved in the relationship between central government and lower tiers of government.

Although not from the Max Planck Institute, it is interesting to note the argument of Hanf and O'Toole (as cited in Börzel, 1997:259-260): 'Modern governance is characterised by decision systems in which territorial and functional differentiation disaggregate effective problem solving capacity into a collection of sub-systems of actors with specialised tasks and limited competence and resources.'

Many see a move towards networks as a mode of governance as a positive development. For instance, Kenis and Schneider (1991:36, cited in Börzel, 1998:260) see policy networks as: 'webs of relatively stable and ongoing

relationships which mobilise and pool dispersed resources so that collective (or parallel) action can be orchestrated towards the solution of a common policy'. In a similar fashion, Börzel (1998:260) argues that: '(...) policy networks present themselves as a solution to coordination problems typical of modern societies'. Furthermore, Scharpf (1992, cited in Börzel, 1997) sees that networks serve as an ideal institutional framework for horizontal self-coordination between public and private actors because they reduce the information and transaction costs, and create mutual trust among the actors, thus diminishing uncertainty and the risk of defection. Consequently, policy making relies on such networks in an increasingly complex, dynamic and diversified environment in which hierarchical coordination is rendered dysfunctional.

Despite their positive connotations, policy networks are not problem-free. Börzel (1998) argues that because of the horizontal self-coordination of actors, networks might tend to produce sub-optimal outcomes, while the realisation of common goals can be blocked by dissent. On the other hand, hierarchy and markets are not totally negative forms of governance either. Although hierarchy can produce 'losers', who have to bear the costs of a political decision (exploitation of the minority by the majority), its major advantage is that they are able to pursue selected goals and control their anticipated consequences. While markets are criticised because of their inability to control the production of negative externalities (i.e. problems of market failure), they are praised for providing autonomy of actors. In overcoming the problems of horizontal self-coordination, it is suggested that networks combine the above-mentioned strengths of hierarchies and markets (Börzel, 1998).

There is no unified way of studying policy networks within the Governance approach. As far as the German school is concerned, Börzel (1998:258-259) makes a distinction between two applications of the concept: (i) using policy networks as an analytical concept or model; and (ii) using the concept of networks to focus on interorganisational relationships.

Those who use policy networks as an *analytical concept* take the individual actors as the unit of analysis, and examine their roles in policy making. Here, the focus is on different actors who are located and interact within a policy sector, and on the results of this interaction. Consequently, this application is largely based on the behaviour of the actors and their linkages. However, it does not go further in exploring why and how single actors act. Therefore, it does not provide a theoretically-informed explanation.

The core of the governance approach, however, lies in the focus on networks as patterns of *interorganisational relationships*. The point of departure for this application lies in the 'societal differentiation', 'sectoralisation' and 'policy growth' which has led to political overload and 'governance under pressure' (the last phrase is Jordan and Richardson's, 1983; and see Börzel, 1998:259). This application goes beyond a focus on the behaviour of individuals, by considering

the structure and processes through which joint policy making is organised, i.e. governance.

There are doubts about whether the concept of policy networks as a specific form of governance constitutes a proper theory (Börzel, 1997:263). As Börzel states:

To explain the phenomenon of policy networks as a new mode of governance, the Max-Planck school draws from what is called 'actor-centred institutionalism, mainly developed by Renate Mayntz and Fritz Scharpf (1995), which is very often combined with other theoretical approaches, such as game theory (Scharpf, 1992a, 1992b, 1993; Zintl, 1992), theories of exchange (Marin, 1990), or resource dependency theory (Marin, 1990, 1993a, 1993b; Kenis and Schneider, 1991). Actor-centred institutionalism uses elements of institutional theory and rational choice theory. Institutions are conceived of as regulatory structures providing opportunities and constraints for rational actors striving to maximise their preferences (Mayntz & Scharpf, 1995) (Börzel, 1998:263). [...] However, the rationalist institutionalist approaches of the Max Planck Institute has been criticised for neglecting the role of consensual knowledge, ideas, beliefs and values in the study of networks (Sabatier, 1993; Majone, 1993; Singer, 1993) (Börzel, 1998:264).

2.3.1.3 The Dutch school

The Dutch school shares the Max Planck Institute's view that networks are a new way of governing society, which reflects the change in the modern polity (Kickert et al. (eds), 1997; Klijn, 1997). However, they do not see networks as an alternative to hierarchies and markets, as the German school does, but rather as an alternative to the rational central rule model, which involves top-down decision making, in which government is the key actor. For the Dutch school, the policy network model offers a democratic alternative to the rational central rule model. Government is only one of the actors in the policy networks. Actors exchange resources, cooperate, and try to reach consensus. Policy failure may result from the absence of actors or insufficient information or attention by them (Kickert et al. (eds), 1997).

Klijn (1996) indicates two missing points in the existing literature on (i) policy networks, which originates from interorganisational theory; and (ii) Anglo-American theory that examines government-interest groups, which originates from political science. As a matter of fact, these missing points constitute the two major features of the Dutch school: its focus on the dynamics of the policy process and on effective network management. Let us have a look at these aspects:

Focus on the dynamics of the policy process

The *first* major feature of the Dutch school is its attention to the theoretical conceptualisation of the *dynamics of policy processes*. As we saw in Figure 2.1, the theoretical roots of the Dutch policy networks approach is concentrated on the concept of process. As such, 'process approaches to policy making tend to

emphasise the dynamics of policy making' (Klijn, 1997:16). Governance is a goal-oriented process; and 'network management aims at creating conditions under which this goal-oriented process can take place' (De Bruijn & Ten Heuvelhof, 1997:120). While network management is the instrument which helps to realise this process, it makes use of other instruments of, for example, a 'regulatory, financial and communicative' nature (for an overview of these instruments, see De Bruijn & Ten Heuvelhof, 1997:126-130).

The Dutch school, in contrast to the German school, focuses on the detailed operation of the policy networks. Various key concepts related to the operationalisation of the process of policy making in the policy networks have been identified in their publications during 1992-2004.

For example, in the earlier phases, Klijn et al. (1994) distinguished *networks* and *games* as two key but separate concepts. Each of these concepts was associated with specific components. *Networks* involved actors and their relations, resource distribution, rules and perceptions. *Policy games*, on the other hand, were associated with strategies and policy outcomes. And, there was an interaction between games and networks. However, in my view, games and networks are not separate entities of equivalent or complementary nature, which interact with each other; rather, games can be the products/artefacts of the interaction between the network actors. The dynamics of the interaction between networks and games was explained with some inspiration from the structuration theory of Giddens (see Klijn et al., 1994:7-8); but this explanation has not been further elaborated in the Dutch school of Governance approach to the policy networks (for an examination of similarities between the early Dutch school on governance and the British Interest Intermediation school, see 2.3.2.4).

The distinction between the network and games has eventually faded away, but games have almost always played a significant role in the first decade of the Dutch school. 'A game is an ongoing, sequential chain of (strategic) actions between different players (actors) governed by formal and informal rules that develop around issues or decisions in which actors are interested' (Klijn, 1996:98). The policy game seems to be the element, which brings dynamism to networks, and which involves actors and their relations; in other words, it seems to serve as a melting pot for the actors, rules and outcomes.

Even earlier, Klijn and Teisman (1992), in their work on 'decision making in policy networks', refer to the games being played in the networks. In their view, 'policy is a result of the decisions taken in different games that the actors play with each other' (ibid.: 40). Network analysis, for Klijn and Teisman (1992), needs to use three concepts: (i) Strategic behaviour: to analyse how actors behave in the networks; (ii) Perception: to analyse how actors behave in particular ways; and (iii) Series of games: to analyse policy development as a series of decisions.

The three concepts introduced by Klijn and Teisman, as well as others, are spelled out in the seminal book *Managing Complex Networks* (Kickert et al. (eds),

1997). For example, Termeer and Koppenjan argue that perceptions play an important role in the interactions within policy networks. People who share common perceptions tend to interact more often than they do with others who do not share those perceptions. As a result of these interactions, particular social configurations develop. There may be more than one social configuration in any network. This means that the problem-solving process within a policy network may involve cooperation between actors belonging to different configurations, who hold different, and perhaps conflicting, views (Termeer & Koppenjan, 1997:83-84). Instruments for network management were elaborated by De Bruijn and Ten Heuvelhof (1997:119-136). Until then, the Dutch school had elaborated major concepts of the policy networks approach; but it was not a unified and integrated framework when it came to the process of policy making by policy networks.

More concrete attention, however, was paid to 'effective network management'. The most unified and comprehensive attempt was probably made in the Koppenjan and Klijn (2004) co-authored book, which combined both features of the Dutch school at once: there was a closer scrutiny of understanding the process of policy making – however in the light of uncertainties, as well as how to deal with these uncertainties, and thus, how to effectively manage them (see below for further elaboration of the work of Koppenjan and Klijn, 2004).

Focus on the effective network management

As already stated, the *second* major feature of the Dutch school is their concern with *how policy networks can be effectively managed*. To them effective governance and effective network management are almost synonymous (Klijn, 1997).

The treatment of the concept of network management and its components within the Dutch school has evolved since 1990s. Initially, Klijn et al. (1994) identified two forms of network management: i.e. game management and network restructuring. As such, game management aims at promoting and improving interaction, whereas network restructuring aims at changing the network with the purpose to improve the conditions under which interaction processes come about. This change can be introduced in the relations of the actors; in the distribution of resources; in the interaction rules; or in the norms, values and perceptions.

However, later in 1996, the terminology changed to some extent. Klijn referred to 'policy management' and 'process management' as the two forms of network management. These terms seem to have replaced the earlier terminology of 1994, i.e. 'game management' and 'network restructuring' – although this was not explicitly stated. *Policy management* strategies treat the game as given, and try to influence the goals and strategies of other actors in the game (Klijn, 1996:107). *Process management* strategies try to influence the setting of the game or try to change the 'ecologies of games' (see Sections 2.3.2.4 and 3.4.2). In addition, Klijn adds network constitution as a third form of network management. As such,

network constitution is directed towards a change in the network as a whole, i.e. a change in the number of actors or the relation patterns involved. Later, in 2000, Klijn and Koppenjan refer to 'process management' and 'network constitution' as the two types of network management strategies.

The literature on network management was tested on environmental policy making (Glasbergen, 1989; Driessen & Glasbergen, 1995, Driessen & Vermeulen, 1995). Given the presence of various public and private stakeholders with divergent interests around environmental issues, and their interdependencies, network management theory has been applied to a number of case studies in this field. In this context, Driessen and Vermeulen (1995:160-170) suggest that there are seven steps towards effective network management at the operational level: (i) periodisation of the interaction and communication process; (ii) selective activation of actors; (iii) formulation of a specific organisational structure; (iv) defining the policy problem; (v) designing interaction and communication procedures; (vi) enlisting a mediator; and (vii) conditions for implementation.

It is important to note that these steps reflect an understanding that network formation and network interaction can be planned. As such, the work of Driessen and Vermeulen (1995) re-emphasise the importance attached to 'managing the networks' in the Dutch tradition. However, except where limited specific projects are concerned, it is doubtful if such planning is, in practice, feasible. Indeed, a great deal of other empirical work was conducted during the 2000s in the fields of urban development and regeneration.

Overall, the Dutch school provides a toolbox, which could also be called a 'network manager's handbook'. These operational measures are meant to be applied in order to manage the networks effectively. Research conducted in this regard focuses on the process and the strategic action involved, but the linkages between the strategic action and the policy outcomes have for a long while not been clear. However, in the more recent phase of the Dutch school, some attention was paid to the outcomes. Let us now turn to the latest developments in the Dutch school.

Looking at the last decade of the Dutch Governance school, the publications have revolved around three themes related to networks: (i) uncertainty, (ii) complexity, (iii) outcomes. Let us now briefly examine these themes, with a special emphasis on the last one, which is the most interesting for this dissertation.

Uncertainty in the Dutch school of Governance

Uncertainty appears to be the leading thread in the analysis of the environmental debate in the Netherlands from a network perspective (Van Bueren et al., 2003). 'Wicked' policy problems, which mainly exist in the highly technical problems in fields such as environment, health and safety, have to be dealt with within a

context of uncertainty of three types: cognitive uncertainty, strategic uncertainty, and institutional uncertainty. In explaining these uncertainties, games, arenas, and networks are used as the central concepts of the policy network approach. A policy game could produce three types of outcomes: substantive outcomes, strategic outcomes, and institutional outcomes. While *substantive outcomes* could vary from non-decisions, one-sided and 'blunt' decisions, and compromises to innovative decisions on the basis of goal intertwinement and enrichment, the article does not clearly explain the *strategic* and *institutional outcomes*. However, all three types of outcomes are linked to three consecutive types of learning. These are unsurprisingly, cognitive, strategic, and institutional learning (Van Bueren et al., 2003:196).

Obviously the framework in the Van Bueren et al. (2003) article was elaborated extensively in the Koppenjan and Klijn (2004) co-authored book *Managing Uncertainties in Networks*. As a matter of fact, this book could be considered as the second major seminal publication of the Dutch school of Governance, following the Kickert et al. edited book in 1997. Koppenjan and Klijn (2004) first provide an analysis of the uncertainties, which are of three types related to: content, process, and institutions. Subsequently, they provide solutions for managing these uncertainties.

When each type of uncertainty is examined closely, first a classification of that particular type of uncertainty was made, and then relevant management strategies were formulated. These are elaborated extensively in the book. In a nutshell, *content-related uncertainties* are defined as knowledge conflicts and asymmetrical debates. The management of these uncertainties involves two strategies: furthering cross-frame reflection, and the creation of negotiated knowledge. *Institution-related uncertainties* are linked to patterns, rules and trust. And a number of strategies for the institutional design include changing network rules and institutional design (Koppenjan & Klijn, 2004).

Of the three types of uncertainties, the *process-related uncertainties* revolve around problem solving as a strategic game. The management strategies to deal with process-related uncertainties consist of selective coupling, rules of the game, and process management. Outcomes were elaborated in the section on process related uncertainty. The authors see the policy games as key for explaining outcomes. Policy games as such have an impact on the outcomes, which are of three types: substantive outcomes, process outcomes, and institutional outcomes (see also the elaboration of Van Bueren et al., 2003).

- Substantive outcomes may take different forms. For example, it can happen that non-decision making; blunt solution or adverse selection is an outcome when a decision is made based on limited information or to satisfy a small number of involved interests.
- The outcomes at the process level concern the effect upon the relations between involved organisations that can shift between the extremes of

- cooperation and hostility under the influence of interaction and idea exchange.
- Institutional outcomes may lead to the creation or modification of relations, mutual orientations and perceptions and a shared language. Here, institutions refer to the enduring relations between the actors. These relations make up the networks in which the actors participate.

Complexity in the Dutch school of Governance

Half a decade later than the 2004 book, the work of various members of Dutch Governance school culminated in another book. The Teisman et al. (2009) edited book *Managing Complex Governance Systems*, included contributions by some members of the *Governance of Complex Systems (GOCS)* sub-group of the Department of Public Administration of Erasmus University Rotterdam. The main arguments in this book are:

- governance systems are by definition complex;
- the process of change in the governance systems and networks is unique and non-replicable.

In addition to the variation in the way the process of governance systems and networks change, the authors are also concerned with the question ‘Why does the output of governance processes often differ from initial expectations?’. In search for an answer to this question, they use ‘complexity’ as the explanatory variable.

Outcomes in the Dutch school of Governance

Outcomes later appeared as the key dependent variable in two most recent articles: In one article, Klijn et al. examine the impact of trust (2010a⁴⁰) and the impact of network management (2010b⁴¹) on the outcomes.

Trust, as such, certainly did not appear out of blue. It was indicated earlier by Koppenjan and Klijn (2004) as an element of the institutional aspect of the networks. In 2007, Edelenbos and Klijn explored trust in complex decision-making networks, both theoretically and empirically. The authors define trust as ‘a more or less stable perception of actors about the intentions of other actors, that is, they refrain from opportunistic behaviour’ (Edelenbos & Klijn, 2007:30). Klijn et al. (2010a) examine the influence of trust on perceived outcomes in relation to environmental projects in the Netherlands. The outcomes are of two types: *content outcomes* focus on what has been achieved in the process (the substance) and *process outcomes* focus on the quality of the process itself (ibid. 202). They also raise the question whether active network management improved the level of trust in networks. First, trust is defined as an independent variable; and outcome, i.e. content and process outcomes, was defined as a

⁴⁰ Klijn, Edelenbos and Steijn.

⁴¹ Klijn, Steijn and Edelenbos.

dependent variable. Another independent variable was network management strategies. Referring to the literature (see p. 205), the authors distinguish network management strategies, such as activating actors, exploring content, connecting, and setting process rules (16 items divided into four strategies) (Klijn et al., 2010a:205) (for an exploration of the same strategies, see also Klijn et al., 2010b).

They do not specify what content outcomes were *per se* but they put forward the characteristics of the content outcomes by their:

- innovative character;
- integrative aspect;
- recognisable contribution;
- problem solving capacity;
- robustness over time;
- costs and benefits to the relationships (Klijn et al., 2010a:203; Klijn et al., 2010b:1066).

Just like content-related outcomes, the characteristics of the process outcomes are specified (i.e. management, conflict resolution, prevention of deadlocks, productive use of differences in perspectives, contact frequency, and support).

As a matter of fact, when they talk about content outcomes, the authors do not refer to the substance of the outcome: rather they specify the nature and quality of what has been achieved in the process. Among the four hypotheses of the article, the second one explicitly refers to the alleged relationship between trust and the outcome, i.e. a higher level of trust in governance networks will lead to outcomes that actors in these networks perceive to be of higher quality. The results of the analysis support this hypothesis. The authors also find that managerial strategies have a positive effect on (process and content) outcomes.

The authors indicate in both articles that measuring outcomes in networks is difficult for several reasons (Klijn, et al., 2010a:201; Klijn et al., 2010b:1065):

- Using an ex-ante formulated goal is difficult because specific goals are not formulated or only vaguely formulated;
- Many of the actors have their own goals; making it difficult in a network context to know which goals should be taken as a yardstick;
- Because the projects take a long time, actors' goals often change in that period. Referring to Koppenjan and Klijn (2004), this is called 'goal displacement', if seen as a negative occurrence; or 'learning', if seen as a positive event;
- Measuring objective outcomes is difficult, especially in surveys, where one can only use the judgment of the respondent as a proxy for these objective outcomes.

In another vein, Klijn et al. (2010b) examine the relationships between network management strategies and outcomes. As such, they examine whether managerial strategies matter for the outcomes and, if so, what type of strategies have an effect on the outcomes. Measuring outcomes is seen as problematic because actors have different managerial strategies, each of which has a different impact on the outcomes (ibid.:1063). The authors assess the perceived outcomes (realised dwellings, infrastructure, and time of decision making). They identify four network management strategies per category i.e. arranging, exploring content, connecting, and making process agreements. Amongst these, exploring content appears to be the strategy which is most closely linked to the substantive outcomes, because it is seen as a part of the process management strategies. Examples of this strategy include: searching for goal congruency, creating variation in solutions influencing (and explicating) perceptions, managing and collecting information and doing research, and creating variation through creative competition (ibid.:1066-1069). On the basis of six environmental projects in the Netherlands, the following conclusions are drawn (ibid.:1076-1077):

- *exploring content* appears to be the most promising strategy;
- the most effective strategy appears to be *connecting*; and
- *arranging* and *making process agreements* appears less important (ibid.:1077).

In their conclusions, however, the authors call for caution as the results in the service delivery sector could differ, as well as in different decision-making cultures. Being aware of the specific context of the project, as well as in-depth case study research, would help in gaining more insight.

In my view, the conclusions of this article reflect very well the further directions, which involve a specific focus on managing the content outcome (ibid.:1077):

The strong effect of exploring content on both content and process outcomes [...] suggests that managing the content dimension of networks is equally important as managing the process dimension. Since these complex processes are essentially about content and value choices, this may be less surprising than it seems. In the end, actors get involved because they want to achieve a certain content, and do not simply participate for the sake of process (ibid.:1077).

Looking back over the evolution of the work produced in the Dutch school, it can be observed that a closer look at the process and (effective) network management involved a dynamic use of the terminology. However, this dynamism was accompanied with a drawback relating to the terminological complexity, for example, concerning the elaboration of the types of network management strategies and outcomes. As such, it can be observed that the terminology regarding types of *network management strategies* has shifted. These strategies have included game management and network restructuring (Klijn et al., 1994); policy management, process management and network constitution (Klijn, 1996); process management and network constitution (Klijn &

Koppenjan, 2000); and activating actors, exploring content, connecting, and setting process rules (Klijn et al., 2010a and 2010b). Later, *outcomes* have been reclassified a number of times: for example, substantive, strategic and institutional outcomes (as linked to three types of learning: i.e. cognitive, strategic and institutional learning) (Van Bueren et al., 2003); substantive, strategic and institutional outcomes (as linked to the three types of uncertainties: i.e. content-, process- and institution-related uncertainties) (Klijn and Koppenjan, 2004); and content and process outcomes (Klijn et al. 2010a). While this variation in the terminological use reflects a dynamic development of the Dutch approach to networks as a form of governance, it is not always easy to follow an established line of evolution as to, for example, why certain categories of network management strategies or types of outcomes have been replaced by other sets of strategies or outcomes in the subsequent publications.

However, on the other hand, this dynamism (albeit with its terminological complexity) denotes an evident widening of the scope of the Dutch school in the last decade with a thorough elaboration of uncertainty and complexity, their implications for the outcomes (substantive, process-related and institutional) and how to deal with them with different network management strategies. In addition, attention was also paid to the impact of single variables on the outcomes such as trust and network management. Most remarkably, the need to manage the content dimension of networks was raised as an issue that also should be paid attention. This could certainly be elaborated further within the Dutch school of Governance.

2.3.1.4 Other approaches in the Governance school

Without doubt, the concept of governance has been studied in close connection with a number of other theoretical approaches. Amongst these, three remarkable approaches are: (i) the recently developed literature on democratic network governance and meta-governance by the Danish school; (ii) the recently evolving literature on the new public governance; and (iii) the relatively older implementation studies,

The Danish school of Network Governance

Arguing that the first generation of network theorists were primarily interested in describing different kinds of networks, and showing how they function as mechanisms of governance, Sørensen and Torfing (2007) from Roskilde University aim to develop a second generation of governance network research by assessing the normative and political impact of governance networks and to improve their performance.

Sørensen and Torfing (2009:236) define governance networks as:

A stable articulation of mutually dependent, but operationally autonomous actors from state, market and civil society, who interact through conflict-ridden negotiations that take place within an institutionalised framework of rules, norms,

shared knowledge and social imaginaries; facilitate self-regulated policy making in the shadow of hierarchy; and contribute to the production of 'public value' in a broad sense of problem definitions, visions, ideas, plans and concrete regulations that are deemed relevant to broad sections of the population.

The authors aim to enhance the theoretical self-awareness of network governance theory. Therefore, they indicate the need for a clear delineation of the theoretical underpinning of the explanatory ambitions. They focus on four issues and four related questions. These are:

- (i) the dynamics of governance networks:
Why and how governance networks are formed, developed, reshaped, and terminated?
- (ii) the conditions for governance network success and failure:
What are the conditions for governance networks to produce public policy and governance on the basis of stable, negotiated interaction between interdependent but relatively autonomous actors?
- (iii) the forms and functions of meta-governance:
How is it possible for political authorities of various kinds to regulate self-regulation governance networks in order to minimise the risk of governance failure and maximise the prospect of success?
- (iv) The democratic implications of network governance:
How can we assess the problems and merits of governance networks in relation to normative standards of democracy, and what is the result of such an assessment? (Sørensen & Torfing, 2007:7-8).

The Danish school shares some similarities with the Dutch school of Governance: for instance, with respect to their emphasis on complexity and process management. Interaction of the network actors with one another through negotiation is a factor that results in complex processes (Torfing, 2007, cited in Klijn et al. 2010b:1067). According to Sørensen (2007, cited in Klijn et al., 2010b), 'the outcomes of governance networks depend on the ability or competence of managers'.

They also pay attention to effective network management; however, they prefer to use the term 'meta-governance' indicating 'regulation of self-regulation' (Sørensen, 2005:98; Sørensen & Torfing, 2007:15); 'organisation of self-organisation' (Jessop, 1998:42, cited in Sørensen, 2005:101); or 'governance of governance' (Sørensen & Torfing, 2009:245). They define meta-governance as 'higher order governance transcending the concrete forms of governance through which social and economic life is shaped, regulated and transformed' (Sørensen & Torfing, 2007:245). They are interested more specifically in how the tools of meta-governance can be used in the pursuit of effective and democratic network governance.

Both democratic network governance theory and the meta-governance debates have been elaborated thoroughly by the Danish scholars. With regard to the democratic network governance theory, Sørensen and Torfing (2009) discuss that the contributions to the theories of democratic network governance are based on a wide range of theoretical approaches within three bodies of theory: institutional theory, governance network theory, and democratic theory. On what concerns the meta-governance debates, they (2009) mention three central contributions to the discussion: a systems-theoretical perspective on the metagovernance developed by Kooiman (2003); a state-theoretical account of metagovernance as developed by Jessop (2002); and a managerial perspective on metagovernance by Koppenjan and Klijn (2004). A detailed elaboration of the theoretical underpinnings is, however, beyond the scope of this research. Although metagovernance can also be exercised by a network of public and private actors, or by legitimate and resourceful private actors, it is acknowledged that, in most cases, public authorities must authorise networks and private actors as metagovernors at the local, national, or transnational levels. In their efforts to metagovern the governance networks, elected politicians and public managers can employ different tools: network design, network framing, network management, and network participation (Sørensen & Torfing, 2009:246-7).

The New Public Governance

In his article entitled 'The new public governance?' Osborne⁴²(2006) raises a fundamental question about the direction of the theory of public administration and management (PAM). He identifies three major stages in the evolution of PAM theory: public administration, the new public management, and the new public governance (ibid.:377-384).

In the development of PAM theory, as Osborne lays down, the *public administration* (emphasis added) tradition was the longest, extending from the late 19th century until the late 1970s and early 1980s. It focuses precisely upon the *policy making and implementation system* (emphasis in original), or cycle, with an assumption that effective PAM comprises the successful implementation by public managers of policies decided 'upstream' in this system by democratically elected (and it is implicitly assumed, accountable) politicians. In this understanding, implementation is seen as a black box (with no apparent will to unpack the complex sub-processes of the management of the outputs of the policy process) (ibid.:382).

The new public management (emphasis added), on the other hand, experienced a short transitory period between the early 1980s until the first years of the 21st

⁴² In addition to the new public governance, Osborne has extensive work on the new public management and the third sector. Osborne (ed.) (2008) refers to the third sector, primarily involving the voluntary sector, as having implications for – among other things – the efficient and effective delivery of public services. Further, an emerging concept of hybrid organisations is mentioned where the third sector interacts at an organisational level with the public and private sectors.

century. It involves the application of the private sector managerial techniques with the automatic assumption that such techniques will lead to improvements in the efficiency and effectiveness of these services. Its focus is almost wholly upon *intra-organisational processes and management* (emphasis in original), and it emphasises the economy and efficiency of these service units in producing public services (conceptualised as the outputs of the processes).

Comparing the first two approaches, Osborne (2006) suggests that the sterile dichotomy of administration versus management can be overcome by a more holistic theory, which in this case is, the New Public Governance.

The plural and pluralist tradition of the *New Public Governance (NPG)* (emphasis added), is the third approach since the start of the 21st century. It is possible, and indeed desirable, to develop a theory of the NPG as an alternative discourse of its own right. In contrast to the other two approaches, the NPG is rooted firmly within organizational sociology and network theory, and acknowledges the increasingly fragmented and uncertain nature of public management in the 21st century (Haveri, 2006, cited in Osborne 2006:383). '(...) It posits both a *plural state* (emphasis in original), where multiple inter-dependent actors contribute to the delivery of public services and a *pluralist state* (emphasis in original), where multiple processes inform the policy making system. As a consequence of these two forms of plurality, its focus is very much upon inter-organizational relationships and the governance of processes, and it stresses service effectiveness and outcomes' (ibid.:384). The new public governance paradigm has inherent strengths for the study and practice of PAM. It combines the strengths of public administration and the new public management, by recognizing the legitimacy and interrelatedness of the policy making and implementation/service delivery processes.

Osborne (2009) raises some fundamental questions if we are going to see NPG as a public services delivery regime. He suggests that most fundamentally we need to understand the services delivery as a *dynamic system* where organisations, services and users interact to co-produce public services. The new public governance paradigm was later elaborated more extensively in the book *The New Public Governance* edited by Osborne in 2009, composed by various authors who have already contributed to the Governance school of policy networks, as well as to the new public management tradition.

Implementation studies

Implementation studies date back to the late 1940s (Saetren, 2005). One could talk about three generations of policy implementation research which was largely based in the USA, and there are some signals in the literature about the fourth generation, although they are not entirely developed.

As Peter deLeon and Linda deLeon (2002) summarise, the first generation consisted of case study analyses that focused on the problematic relationships

between the definition of a policy and its execution. The second generation research included the work of Mazmanian and Sabatier (cited in deLeon & deLeon 2002:470), who, among others, conducted empirical work which involved a top-down perspective in implementation. An alternative second generation arose simultaneously in the context of bottom-up orientation as with the work of Lipsky, Hjern and Hull (cited in deLeon & deLeon 2002:470), as well as more recent work by Hill and Hupe (2009). This alternative stream of work introduced street-level bureaucrats and acknowledged that:

(...) they were better able to capture the full range of implementation's intricacies. In consequence, they began to argue that implementation needed to be part and parcel of the policy formulation calculations (deLeon & deLeon, 2002:470).

The third generation of implementation studies aimed to explain 'why behavior varies across time, across policies, and across units of government. They also aimed to predict the type of implementation behaviour that is likely to occur in the future' (Gogin 1990, cited in DeLeon & deLeon, 2002:471). Watts (2009:295), drawing upon O'Toole (1997), suggests contributing to the fourth generation implementation research with consideration of the organizational control of networks and their communicative mechanisms.

Implementation research seems to offer various empirical studies. Saetren (2005), who argues against the 'alleged demise of implementation research', provides an overview of the research conducted in this line. His overview indicates that during the period 1948-2003, about three quarters of the articles published in the academic journals were related to health, education, law, environment and economics. This is certainly a remarkable feature of implementation studies.

Implementation studies are seen as being closely connected to governance studies. As O'Toole (2002) rightly states: '(...) much current scholarly effort aimed at issues of governance as well as other themes is directly relevant to the core question undergirding implementation research: how to explain what goes right and wrong, between the apparent commitment on the part of a government to do something (or stop doing something) and the impact of that decision in the practical world'. Furthermore, the multi-actor character of policy action needs to be recognised for an understanding of implementation (O'Toole, 1996, cited in O'Toole, 2000). More specifically, operational governance, which involves managing trajectories, relations and contacts, appears an important component of the implementation studies (Hill & Hupe, 2009).

Interorganisational service delivery and policy implementation appears as one type of network research in the three-fold classification of Klijn [the other two being research on policy networks and research on network governance) (Klijn, 2008)]. Indeed, in most of the governance approach, networks are ascribed the role of policy formulation and implementation (Klijn, 2008; Sorensen & Torfing, 2007:3 and 5; Peters, 2007:74); or 'public policy deliberation and implementation

(Pierre & Peters, 2000; Koppenjan & Klijn, 2004, both cited in Klijn et al., 2010b:1064) even if the term 'implementation networks' is not commonly used.

However, we come across the use of other terminology, including 'implementation structures', 'service-implementation networks', 'collaborative implementation network structures' and 'micro-networks'. The oldest of these is *implementation structures*, as launched by Hjern and Porter (1981), which refer to the clusters of parts of public and private organisations, which implement programmes, in order to accomplish objectives. Closely related to Hjern and Porter's implementation structures, Provan and Milward (1991) conducted a case study on a *service-implementation network* in the health care sector. This is based on the idea that 'since no single agency provides the entire package of related services often needed by clients, multiple services are best delivered interorganisationally through a coordinated and integrated network of organisations, offering components of the complete service (ibid.:394). In this article, institutional level norms and organisational involvement in a service implementation network were studied. More recently, in 2007, Hupe and Hill, investigating what is called 'street level bureaucracy' by Lipsky (1980, cited in Hupe & Hill, 2007), argue that street level bureaucrats function in a *micro-network*, or, 'web' of multiple, both vertical and horizontal, relations (ibid.:284). Finally, Watts (2009) talks about *collaborative implementation network structures* based on cultural tourism implementation in an English seaside context.

An extensive elaboration of the implementation studies and their position within the governance approach is beyond the scope of this dissertation, and we now turn to the policy networks as a form of interest intermediation.

2.3.2 Policy networks as a form of interest intermediation: the British school

In the British literature, policy networks are seen as a model of interest intermediation; i.e. of government and interest group relations. This approach has received considerable attention from British scholars such as David Marsh, Rod Rhodes and Martin J. Smith, as well as Keith Dowding, Wyn Grant, Grant Jordan and Jeremy Richardson. My main focus here is upon the policy networks concept as developed by Rhodes (1981, 1986, and 1988), Marsh and Rhodes (1992), Marsh (1998b) and Marsh and Smith (2000), but I also consider the work of other British scholars where it is relevant.

The major characteristic of the policy networks conception, as developed by Rhodes (1981, 1986 and 1988) and Marsh and Rhodes (1992); is that they see it as a meso-level concept. The meso-level refers to government and interest group relations. In the view of Marsh and Rhodes (1992), it is a meso-level concept because it links the micro-level and the macro-level of analyses. Here, the micro-level of analysis involves examining the role of individual actors with particular interests in reaching certain policy outcomes, whereas the macro-level of

analysis is concerned with the broader questions of power distribution within contemporary society. As such, Marsh and Rhodes (ibid.:2) argue that:

(...) the existence of a policy network both has an influence on, although it clearly does not determine, policy outcomes and reflects the relative status, or even power, of the particular interests in a broad policy area.

This assumption constitutes the underlying logic of the Interest Intermediation school in two ways:

First, it attempts to make an explicit link between policy networks and policy outcomes. This link is often reflected in the literature by a statement that 'policy networks affect policy outcomes'.

So, Rhodes, in one of his earlier works, asserts that: 'the analysis of policy networks presupposes that they have a key impact on policy content [...]. It is clear that the analysis of the policy networks can not be limited to the analysis of process; it must encompass policy content' (Rhodes, 1988:83).

However, *second*, this does not mean policy networks are the sole determinant of policy outcomes, rather they are one of the factors exerting influence on them. Nevertheless, it places policy networks at the centre of policy analysis, while recognising the influence of other elements, such as the power distribution in the broader context, etc. The quotation above is crucial in clarifying the view of the role of policy networks in policy analysis in the works of Rhodes, Marsh and Smith. More theoretical work has been done subsequently by these authors with the aim of elucidating the link between policy networks, the broader context of policy making and policy outcomes. This work is examined below.

2.3.2.1 The background of the Interest Intermediation school

There are three major antecedents of the policy networks model of interest intermediation: (i) the pluralist model of interest intermediation; and two other bodies of literature which originate from the critiques of the pluralist model, namely: (ii) the neo-corporatist model of interest intermediation, and (iii) the American sub-government literature.

Schmitter (1970 cited in Rhodes & Marsh, 1992a:2) provides an extensive definition of *pluralism* as a system of government-interest group intermediation:

Pluralism can be defined as a system of interest representation in which the constituent units are organised into an unspecified number of multiple, voluntary, competitive, non-hierarchically ordered and self-determined (as to type of scope of interest) categories which are not specially licensed, recognised, subsidized, created or otherwise controlled in leadership selection or interest articulation by the state and which do not exercise a monopoly of representational activity within their respective categories.

Drawing on Schmitter's definition of pluralism, the characteristics of a pluralist system of interest representation can be summarised as follows (Rhodes & Marsh, 1992a:2). It involves a large number of groups which compete with one another for influence over policy. Government plays a largely passive role by fulfilling its task of 'authoritatively allocating scarce resources'. While doing that, government remains independent of the interest groups, even if interest group representation becomes institutionalised. A final characteristic of the pluralist tradition is that there is a balance between the interest groups.

As a critique of the pluralist model, a literature on the *corporatist* model of interest intermediation emerged. According to Schmitter (1970, cited in Rhodes & Marsh, 1992a:3):

Corporatism can be defined as a system of interest representation in which the constituent elements are organised into a limited number of singular, compulsory, non-competitive, hierarchically ordered and functionally differentiated categories, recognised or licensed (if not created) by the state and granted a deliberate representational monopoly within their respective categories in exchange for observing certain controls on their selection of leaders and articulation of demands and supports.

In contrast to pluralism, corporatism involves a limited number of hierarchically-organised interest groups representing the major corporations, especially in the economic and industrial policy fields. Groups are hierarchically-structured, with group leaders able to 'deliver' their membership. Relations among these groups and between these groups and the government are close (Rhodes & Marsh, 1992a:3).

Another critique of pluralism came from the *sub-governments* literature. The focus on sub-governments emerged in the 1960s and 1970s in America. According to Ripley and Franklin (cited in Jordan, 1990:321; Rhodes & Marsh, 1992a:6; and Marsh, 1998a:4):

Sub-governments are clusters of individuals that effectively make most of the routine decisions in a given substantive area of policy. (...) A typical sub-government is composed of members of the House and/or Senate, members of Congressional staffs, a few bureaucrats and representatives of private groups and organisations interested in the policy area.

Rhodes and Marsh (1992a:6) and Marsh (1998a:4-5) touch upon two crucial issues within the American sub-government's literature which are potentially critical of pluralism. The first issue is agency-capture, as reflected in the work of Cater (1964) and McConnell (1966), as cited in Marsh (1998a:4). Here, it is suggested that private interests within the sub-government structures could become dominant and capture the government agency, which is supposed to regulate their activities, so government is no longer independent of particular interests. The second issue emphasises the role of a limited number of privileged groups, which have close relations with governments. One commonly used

metaphor, reflecting a rigid form of such a relationship, is the *iron triangle* (Lowi, 1969, cited in Marsh, 1998a:5), which involves a triangular, almost symbiotic, relationship between the central government agency, the congressional committee and the interest group. Again, this suggests an elitist, rather than a pluralist, distribution of power.

In contrast, Heclo (1978, cited in Atkinson & Coleman, 1992:159; Rhodes & Marsh, 1992a:14; Marsh, 1998a:5-6) emphasises the role of *issue networks* in an attempt to downplay the importance of iron triangles. He uses this term to suggest that the policy-making process is fragmented and populated by a wide and unpredictable number of participants. Heclo focuses his discussion at the micro-level, i.e. on the relationships that prevail between individuals.

Two British scholars, Richardson and Jordan, were strongly influenced by the American sub-governments literature. They (1979, as cited in Rhodes & Marsh, 1992:9; Marsh, 1998a:6-7) claim that policy making in Britain takes place in sub-systems within which government agencies and pressure groups negotiate. They emphasise the fragmented nature of society and the divisions within the government. Thus, policy making takes place within a variety of policy networks characterised by close relations between particular interests and different sections of the government. Moreover, Richardson and Jordan (1979) stress the interpersonal, rather than the structural, nature of these relationships within policy communities. In contrast, the Rhodes model places more emphasis upon policy networks as structures, as we shall see below.

Rhodes and Marsh (1992a:3) argue that: '[...] much of the current interest in policy network analysis results from the inadequacies of the pluralist and corporatist models'. They contend that both the pluralist and corporatist models remain much too general and fail to reflect the diversity of government-interest group relations in different policy areas. On the basis of this critique, and the empirical evidence in their book, they identify three major characteristics of the policy networks model:

- (i) Disaggregation: Rhodes and Marsh recognise the need to disaggregate policy analysis, suggesting that government and interest group relations vary in different policy areas, and, as such, it is necessary to identify these variations.
- (ii) A limited number of interests: They suggest that, in most policy areas, a limited number of interests are involved in the policy making process.
- (iii) Continuity: They emphasise that many policy fields are characterised by continuity, not necessarily as far as policy outcomes are concerned, but in terms of the groups involved in policy making (Rhodes & Marsh, 1992a:3-4).

This list of characteristics largely originates from the empirical data provided in the case studies in their book of 1992. The following sections elaborate the

evolution of a particular strand of the British Interest Intermediation school, which starts with the Rhodes model of policy networks (2.3.2.2), matures with the Marsh-Rhodes approach (2.3.2.3), and culminates with the dialectical model (although, the dialectical model is examined in Chapter 3). Then, the common elements of the early Dutch school of Governance and the British Interest Intermediation school, in particular, the dialectical model of policy networks, are elucidated (2.3.2.4). Subsequently, I examine and assess the critiques of the Interest Intermediation school generally, and specifically the strand including the Rhodes model and the Marsh-Rhodes approach, which are the predecessors of the dialectical model of policy networks (2.3.2.5). Finally, I return to a discussion of why this research utilises the work of the Interest Intermediation school rather than the Governance school of network analysis (2.3.2.6).

2.3.2.2 The Rhodes model

As already emphasised, a major feature of the use of the concept of policy networks in the Interest Intermediation school is that it is treated as a meso-level concept (Rhodes & Marsh, 1992a; Daugbjerg & Marsh, 1998; Marsh, 1998a). On the basis of his work on intergovernmental networks in Britain in 1981, Rhodes identifies the meso-level in two ways. *First*, he sees the structural relationship between political institutions, rather than the interpersonal relations between individuals within those institutions, as the crucial element in a policy network. *Secondly*, in his view, networks are located at the sectoral level, rather than the sub-sectoral level (Rhodes & Marsh, 1992a). As such, this view differs strongly from the way Richardson and Jordan (1979) view policy networks in Britain (see 2.3.2.1).

Two initiatives launched by the British Economic and Social Research Council during the late 1980s contributed significantly to the development of the British literature on policy networks and policy communities: the IGR (Intergovernmental Relations) Initiative; and the GIR (Government-Industry Relations) Initiative. The Rhodes model emerged as the analytical framework of the IGR initiative, while Wilks and Wright (1987) (cited in Rhodes & Marsh, 1992a) initially took the Rhodes model as the basis of the GIR Initiative, but later developed it in another direction. Although the models developed in these two initiatives stimulated significant debate (Rhodes & Marsh, 1992a:9-10 and 23-25), the major focus of this research is on the Rhodes model, which has had much more influence on policy networks studies in Britain.

The initial version of the Rhodes model, inspired by inter-organisational relations research in the continental Europe, is based upon Rhodes' application of inter-governmental theory to British central-local relations. This model, also termed the 'power-dependence model', sees policy networks as having five key characteristics (Rhodes 1981, cited in Rhodes & Marsh, 1992a:10):

- resource-dependency;
- resource-exchange between network members;

- ‘relative power potential’ reflecting ‘the product of the resources of each organisation, of the rules of the game, and of the process of exchange between organisations;
- there are *dominant coalitions* in the network, which influence the member organisations’ perceptions of problematic relations and their assessment of which resources to seek;
- the *process of resource exchange* is regulated by the strategies of the dominant coalitions within the *rules of the game* (emphasis in original).

A dominant feature of this early version of the Rhodes model is that: ‘central-local relations are viewed as a game’ (Rhodes & Marsh, 1992a:11). Although not explicitly named as such, *actor-based characteristics* (emphasis added) are stressed in understanding this game. This work focuses particularly upon the strategies used by actors to influence policy outcomes and, thus, improve their own positions compared with the other network members. Resources⁴³ play an important role in the strategies of actors. Therefore, this game is initially treated as the micro-level of analysis (Rhodes, 1988:43).

However, Rhodes also acknowledges both the importance of the ‘context’ or ‘ground’ within/upon which these interactions take place and the fact that the distribution of resources, and the rules of the game that characterise this context, change over time. Rhodes acknowledges the importance of context, and the changes within it, in order to explain the change in the relationship between the UK central and local governments from one of pluralistic bargaining to one of corporatism. Here, Rhodes has redirected the focus to the meso-level of analysis, although he does not use the term.

The main criticism on the Rhodes model suggests that it offers an inadequate exploration of the relationship between the micro-, meso- and macro-levels of analysis. Drawing upon Marsh (1983:1), Rhodes and Marsh (1992a:12) argue that this problem stems from the use of different terminology. In particular, it is argued that, in using corporatist theory to analyse the ‘context’ or the ‘ground’ within which networks operate, Rhodes fails to distinguish between the different uses of corporatist theory, as a form of government and interest group relations and as a theory of state. Perhaps more importantly here, while in later work Rhodes uses the terms ‘context’ and ‘ground’ as macro-level concepts, here, in the initial Rhodes model, they are located at the meso-level, i.e. the level at which the structural relations occur, as focused on in the later Marsh and Rhodes model.

These criticisms led Rhodes to revise his model in 1986. In his revised model, there are three major changes:

⁴³ Rhodes (1986:17) identifies five types of resources: (i) authority or legal resources, (ii) money or financial resources, (iii) political resources, (iv) informational resources, and (v) organisational resources.

First, macro-, meso- and micro-levels of analyses are clearly distinguished. The macro-level refers to ‘the changing characteristics of [British] government [during the post-war period]. The meso-level of analysis focuses on the variety of linkages between the centre and sub-central political and governmental organisations. (...) The micro-level of analysis stresses the game in which actors act strategically.

Second, Rhodes expanded his understanding of actors: that is, actors were not only organisations, but also individuals.

Finally, although he started his power-dependence model with a micro-level of analysis and linked it to the meso-level, the revised model suggested a shift in the focus. This time, he prioritised the link between the meso-level and the macro-level. This link, he argued, is crucial in order to explain: ‘the changing pattern of network relationships and their outcomes’ (Rhodes & Marsh, 1992a:12).

In 1986 Rhodes also developed a classification of five types of networks placed along a continuum. He argues that these networks: ‘range from highly integrated *policy communities* to the loosely integrated *issue networks*’ (see Table 2.1). Between the policy communities at one end of the continuum and the issue networks at the other, three other network types are placed with respect to ‘membership’ and ‘distribution of resources among members’: *professional networks*; *intergovernmental networks*; and *producer networks* (Rhodes & Marsh, 1992a:13-14).

Table 2.1: Policy network types: the Rhodes model

Type of network	Characteristics of network
Policy community/territorial community	Stability, highly restricted membership, vertical interdependence, limited horizontal articulation
Professional network	Stability, highly restricted membership, vertical interdependence, limited horizontal articulation, serves interest of profession
Intergovernmental network	Limited membership, limited vertical interdependence, extensive horizontal articulation
Producer network	Fluctuating membership, limited vertical interdependence, serves interest of producer
Issue network	Unstable, large number of members, limited vertical interdependence

Source: Rhodes and Marsh (1992a:14).

In the 1986 version of his model, Rhodes attempted to provide an adequate analysis of the context within which policy networks operate. In the IGR initiative, the ‘national government environment’ formed that context, which conditioned the

operation of policy networks (Rhodes & Marsh, 1992a:14). Here, there is an explicit attempt to combine the macro-level and meso-levels of analysis.

As indicated earlier, the GIR initiative was the second initiative launched by the British Economic and Social Research Council using a policy network framework. Although it was meant to build on the model produced in the IGR initiative, the influence of Heclo and Wildavsky (cited in Rhodes, 1981) from the American literature became evident. As a result, Wilks and Wright's work differs from the Rhodes model in three respects (cf. Richardson & Jordan, 1979): (i) they emphasise that the disaggregated nature of policy networks is most evident at the sub-sectoral level; (ii) they argue that the interpersonal relationships in the policy networks are crucial; and (iii) they offer entirely new definitions of the terms 'policy networks' and 'policy communities', as well as other terms such as 'policy universe' and 'policy issue'. However, their attempt to redefine such frequently-used concepts has not gained wide recognition (see, for example, Grant et al., 1988, cited in Marsh, 1998a:14; Jordan, 1990; Rhodes & Marsh, 1992a) and it is the Rhodes terminology, as later developed by Marsh and Rhodes that dominates the British literature.

2.3.2.3 The Marsh-Rhodes approach

The Marsh-Rhodes approach first appeared in *Policy Networks in British Government* in 1992 and was based upon the Rhodes model (Rhodes 1981, 1986 and 1988) and critiques of it. This book also contained a series of case studies which attempted to explore the utility of the new approach. Six years later, Marsh edited a collection of theoretical essays and case studies in *Comparing Policy Networks* (1998) in which the Marsh-Rhodes approach was critically evaluated. The final chapter of the book suggested replacing the Marsh-Rhodes approach with a dialectical model of policy networks (for an extensive overview of the dialectical model, see Chapter 3). This section aims to cover the Marsh-Rhodes approach up until the point when the dialectical model was developed. Overall, this approach has four major features (Marsh, 1998a:11):

- Networks are seen as structures of resource dependency, so the interests involved in networks have structural links;
- Organisations, rather than individuals, are the actors in the networks;
- The structure of the networks has an effect on policy outcomes;
- Exogenous factors lead to change in both the policy networks and policy outcomes.

This approach also developed a new typology of policy networks, again based upon a critical evaluation of the Rhodes model. The Marsh-Rhodes typology treats 'policy network' as a generic term, with networks varying along a continuum from policy communities at one end to issue networks at the other end (Marsh & Rhodes, 1992:249) (see Table 2.2). As such, there are two major differences between the Marsh-Rhodes typology and its predecessor.

The first difference reflects a major critique of the former model (Rhodes & Marsh, 1992a:21). According to this critique, the Rhodes model conflates two separate questions in the classification of five types of policy networks. Although in the Rhodes classification it is clear why policy communities and issue networks are placed at the two ends of the continuum, it is not clear why the three other types of network (i.e. professional networks, intergovernmental networks and the production networks) are located on the same continuum (see also Dowding, 1994). Obviously, the Rhodes typology conflates two dimensions (see also Saward, 1992): i) the network's integration, stability and exclusiveness; and ii) the dominant interests within it. As such, policy communities and issue networks can be distinguished in terms of their integration, stability and exclusiveness, while the other types of networks: professional, intergovernmental and producer networks, differ, not along that dimension, but rather according to the dominant interest within them. Although Marsh and Rhodes acknowledge this critique, their typology still does not make this distinction clear. However, this distinction is very clear, if implicit, in Cunningham's case study (in Marsh and Rhodes' edited collection) of sea defence policy in the UK, in which she argues that there was a tight, stable, *professionalised policy network* (emphasis added) – i.e. a professional network near to the policy community end of the Marsh and Rhodes continuum (Marsh & Rhodes, 1992:253).

The second difference results from the attempt by Marsh and Rhodes to refine the characteristics of policy communities and issue networks to make the distinction between them clearer. In addition to 'membership' and 'resources', the two dimensions previously identified by Rhodes (in the Rhodes model), 'integration' and 'power', were introduced in order to sharpen the distinction between the two types of network. Moreover, the four dimensions were then broken down into a series of sub-components, as can be observed in Table 2.2 below:

Table 2.2: The Marsh-Rhodes typology of policy communities and issue networks

	Policy Community	Issue Network
Membership		
<i>Number of participants</i>	Very limited number, some groups consciously excluded	Large
<i>Types of interest</i>	Economic and/or professional interests dominate	Encompasses range of affected interests
Integration		
<i>Frequency of interaction</i>	Frequent, high quality, interaction of all groups on all matters related to policy issue	Contacts fluctuate in frequency and intensity
<i>Continuity</i>	Membership, values and outcomes persistent over time	Access fluctuates significantly
<i>Consensus</i>	All participants share basic values and accept the legitimacy of the outcome	A measure of agreement exists, but conflict is ever present
Resources		
<i>Distribution of resources (within network)</i>	All participants have resources; the basic relationship is an exchange relationship	Some participants may have resources, but they are limited, and the basic relationship is consultative
<i>Distribution of resources (within participating organisations)</i>	Hierarchical; leaders can deliver members	Varied and variable distribution and capacity to regulate members
Power	There is balance of power among members. Although one group may dominate, it must be a positive-sum game if a policy community is to persist	Unequal powers, reflecting the unequal resources and unequal access. It is a zero-sum game.

Source: Marsh and Rhodes (1992:251).

As a result, a policy community is identified with the following characteristics:

[a policy community] has a limited number of participants *with some groups consciously excluded* (emphasis in original); there is frequent and high quality interaction between all members of the community on all matters related to the policy issues; its membership, values and policy outcomes persist over time; there is consensus with the ideology, values and broad policy preferences shared by all participants; all members of the policy community have resources so the relationships between them are exchange relationships; the basic interaction thus is one involving bargaining between members with resources; there is a balance of power not necessarily one in which all members equally benefit but one in which all members see themselves as involved in a positive-sum game; the structure of the participating group is hierarchical so leaders can guarantee the compliance of their members (Marsh, 1998a:14).

On the other hand:

The issue network involves only policy consultation, characterised by: the involvement of a large number of participants; fluctuating interaction and access for the various members; the absence of consensus and the presence of conflict;

interaction based on consultation rather than negotiation of bargaining; an unequal power relationship in which many participants may have fewer resources, little access and no alternative (Marsh, 1998a:14).

In this classification, policy communities and issue networks are treated as ideal types. In practice, there may be many intermediate cases which could be located at different points along this continuum and reflect the variation between the policy areas.

Most of the emphasis in the contributions to the 1992 collection of Marsh and Rhodes was placed on establishing the characteristics of the particular policy networks in the individual case studies according to the Marsh-Rhodes typology. In other words, primary importance was attached to finding out whether the particular policy networks in each issue area could be located nearer the policy community or the issue network end of the continuum. As such, two dimensions of the policy networks typology were frequently referred to: (i) the membership structure of the network, with particular attention paid to the type of dominant interests; and (ii) integration, particularly the extent to which there was continuity and consensus in the networks. As a result, the case studies revealed that most of the policy networks identified had more or less tight network structures, and so could be located at, or near, the policy community end of the continuum.

One of the findings of the case studies in the 1992 set was that the policy network types are not mutually exclusive, i.e. two types of networks can co-exist within the same policy area. And, the typology is not exhaustive, because a network can have two tiers, a core and a periphery. In other words, *within a policy network* (emphasis in original) there is a clear distinction between members with resources and influences and those without (Marsh & Rhodes, 1992:255).

The other set of case studies (Marsh (ed.), 1998) also took the Marsh-Rhodes typology as a starting point. However, it differed from the 1992 volume because it attempted to go beyond establishing the characteristics of the types of policy networks to focus more directly on the question of how networks affect outcomes. The articles in this volume were also relatively critical of the structural emphasis in the Marsh-Rhodes approach, emphasising the dynamic nature of the relationships involved in the link between the networks and policy outcomes. As such, the theoretical and empirical critiques of the Marsh-Rhodes model which emerged from this edited collection led to the presentation of a new model termed 'the dialectical model' in the final chapter of the book.

Both books, i.e. Marsh and Rhodes (eds) (1992) and Marsh (ed.) (1998) addressed more or less the same set of questions:

- Is the concept of policy networks useful?
- Do policy networks affect policy outcomes?
- How and why do networks change?

- Are the linkages interpersonal or institutional?
- Which interests are dominant?

The intention at this point is not to provide an extensive overview of the answers to all these questions, but, rather, to highlight some major points which reflect the evolution of the Marsh-Rhodes approach towards the dialectical model that is examined in Chapter 3.

In this regard, as already indicated, the most fundamental question addressed by the case studies (in both 1992 and 1998) concerned whether and how the existence of policy networks affected policy outcomes. The answer was given in the affirmative in general terms, although the answers in the two collections were not the same.

The 1992 case studies had largely focused on characterising the types of policy networks involved, and particularly on identifying policy communities. Their attempt to answer the question about the link between networks and outcomes reflected this focus. Clearly, the emphasis was on the association of 'policy communities with policy continuity'. So, Marsh and Rhodes (1992:262-263) argued that policy networks appeared to: 'foster incremental change, thereby favouring the *status quo* or the existing balance of interests in the network'.

The case studies in the 1992 collection also tended to make clear the relative roles of the policy communities and issue networks in the policy-making process. As Marsh and Rhodes concluded (1992:254):

Policy networks were found to exist in most areas of policy making and access to the policy process is limited to the privileged few. An issue network, as opposed to a policy community, will exist only if there is no threat to the interests of either an economic or a producer group or a professional group. Issue networks exist, but they are the exception rather than the rule, at the periphery rather than the core of the policy agenda.

As such, Marsh and Rhodes contend that, while policy communities play a potentially active role in the policy-making process, issue networks do not play such a crucial role in policy making, but rather are merely involved in policy consultation. Here, there is a clear, if limited, attempt to link network type and policy outcomes.

On the other hand, in the 1998 collection, characterising the type of policy networks was not the major concern. Most of the case studies attempted to link policy networks and policy outcomes within a broader context. In other words, the 1998 collection attempted to highlight the role of exogenous factors in influencing both the network and policy outcomes. Although these relations were not clearly defined as interactive, the scope of analysis was enlarged when compared with the 1992 collection. So, although exogenous factors, such as economic factors, ideology, knowledge and institutions, did receive attention in the 1992 collection,

the focus then was on how these affected network change, and there was no understanding of how these contextual factors affected policy outcomes, or how policy outcomes reflected back on that context. As such, Stones (1992:200-225) is particularly critical of the Marsh-Rhodes approach, arguing both that (i) change cannot be understood simply in terms of the way in which the context, as an environmental stimulus, affects policy networks, and (ii) actors in the network, shape and construct their 'world', choosing whether or not, and how, to, respond. Stones' analysis was innovative at the time because it acknowledged the existence of an interactive relationship between the policy network and the broader context. Whilst it is not clear to what extent Stones' insights informed the analysis in the 1998 collection, the authors suggest that exogenous factors were influential in shaping both network change and policy change. Additionally, the conclusion to that collection argues that network change can also influence the broader context. Certainly, in the 1998 collection of case studies, the 'webs' of the dialectical model were being 'weaved'⁴⁴. And in the final chapter of the 1998 book, assessing the utility and future of policy networks analysis, the propositional version of the dialectical model was launched (Marsh, 1998b).

2.3.2.4 The early Dutch school and the British Interest Intermediation school: some commonalities

Although most of their attention is paid to the process of networking and effective network management, the Dutch school shares some of the concerns of the British school of Interest Intermediation (see 2.3.2) and, particularly, with the dialectical model of policy networks (see Chapter 3). Especially in their earlier work (Klijn et al., 1994; Klijn 1996), some key concepts such as policy outcome, the broader context, network structure, and agency have been touched upon; sometimes with other terminology. However, by 1997, with the publication of their seminal book on policy networks, Kickert et al. (eds) (1997) refined their focus on the earlier-mentioned two major features of the Dutch school of Governance: policy process and effective network management (see Section 2.3.1.3).

As such, 'policy outcomes are policy measures or policy products brought about in games; for instance, a completed motorway, a reduction in agriculture's waste emissions, concluding a legislation project, contracts or procedures being agreed between actors, but also non-decisions or blockades' (Klijn et al., 1994:7). This conceptualisation of policy outcomes is inherent in the dialectical model of policy networks, if not explicitly, which I elaborated in the revised dialectical model.

According to Klijn and Teisman (1992:41): '(the) structure of a network is not given. It is constantly reproduced and re-interpreted in concrete games'. As already mentioned in Section 2.3.1.3, the dynamic relationship between network and games was explained, as linked to the structuration theory of Giddens (see Klijn et al. 1994). Although the dialectical model does not explicitly focus on the

⁴⁴ Borrowing the metaphor of Hay, C. (1998). *The Tangled Webs We Weave: The Discourse, Strategy and Practice of Networking*. In: Marsh, D. (ed.), *Comparing Policy Networks*. Buckingham: Open University Press.

idea that games are played in the network, one of its major features is the iterative relationship between the network structure and agency, which involves strategic interaction of the actors. Here, the way 'games' are treated in the Dutch school of governance and the way 'strategic interaction' is treated in the Interest Intermediation school resemble.

Referring to Rhodes (1990), Klijn (1996:95) raises the question of what influence does the interaction setting have on the interactions. Here, it seems that the 'interaction setting' refers to the network (in other words, the network structure) and the interaction refers to the agency. Structure is reserved for the relation patterns between the actors, but the way these patterns are created and sustained is not addressed. Klijn (1996) interestingly notes that the 'relationship between network and concrete interactions and institutionalisation processes that occur, raises some of the most interesting questions in network research'. He suggests that 'contextualising policy making' makes the policy networks approach interesting, compared with other ways of analysing public policy processes. However, further publications have not explored this phenomenon in the line of the structure-agency debate.

'Broader context' was another term which was implied by the Dutch school although with different terminology or conceptualisation, i.e. the institutional context and ecology of games. For instance, Klijn (1997) acknowledges the importance of looking at the institutional context within which the networks operate:

(The) policy network approach draws attention to the importance of the institutional context for the issue of governance. If the policy process takes place within a certain institutionalised context (i.e. stable relation pattern between organisations), it becomes important to understand this context (ibid.:33).

Perhaps a more elaborate consideration of the dynamics between the network and the broader context was given by Klijn in his earlier work in 1996. Here, an analogy is made to the 'ecology of games' constituting a broader context of games. As he suggests:

As a result of the interdependency relations, actors interact with each other in games and the ecology of games. In this interconnected but loosely coupled series of games, they try to reach certain outcomes and use strategies to affect the strategies and interdependencies of other actors that can influence the realisation of those outcomes. Policy is a result of this ecology of games (Klijn, 1996:100).

2.3.2.5 Critiques of the policy networks approach of the Interest Intermediation school

Policy networks have been variously conceptualised as: a metaphor, a heuristic device, an analytical tool, or a theoretical approach. In addition, this debate is highly polarised.

The concept of network has been commonly used as a *metaphor* to identify the complexity and interdependence inherent in the policy-making process. However, critiques suggest that the use of the network concept as a *metaphor* (Dowding, 1995), as an *analogical model*, and a *didactic and heuristic device* (Evans, 2001), or as an *analytical tool* (Börzel, 1998) cannot explain policy outcomes. In this fashion, Dudley (2003) is among those who are sceptical about the extent to which policy networks can explain policy change. He stresses that policy communities in particular are identified with policy stability, not with policy change. Similarly, Marin and Mayntz (1991) argue that the concept has: 'a vague meaning and that the perspective it implies has not yet matured into anything like a coherent (middle range) theory'.

In this way, Börzel (1998), while acknowledging the utility of the policy networks concept as a *theoretical approach*, criticises attempts to link network type to policy outcomes. Citing Bressers and O'Toole (1994), she argues that there is no attempt to generate hypotheses which systematically link the *nature* of a policy network with the *character* and the *outcome of the policy process* (emphasis added). However, in 1998, Daugbjerg attempted to link policies to network types and tested his proposition on the Danish and Swedish nitrate policy cases (Daugbjerg, 1998). He rightly called for other empirical work to test the linkages between policy and network types. To an extent, Marsh and Rhodes anticipated this criticism stressing that any casual links need to be empirically tested and validated but many argue that such linkages still remain to be established.

Dowding's criticism is probably the most fundamental (1994 and 2001), raising three key and related points which I need to address. *First*, he argues that, whilst Marsh and Rhodes offer a detailed classification of different types of network, they do not identify or distinguish between their dependent and independent variables (he also emphasised this point in 1995). In his view, the driving force of their explanation, that is the key independent variables, are not the network characteristics *per se*, but rather the characteristics of the components of the networks. To Dowding, these components explain both the nature of the network *and* the nature of the policy process (emphasis in original). Consequently, it is necessary to unpack the characteristics of the different policy network types in order to discover why, for example, policy communities are associated with policy continuity.

Second, in contrast to Rhodes and Marsh, Dowding argues that micro-level analysis, in his case rooted in rational choice theory, could lead to interesting generalisations about the meso-level and the macro-level in relation to policy networks. As such, he focuses on the patterns of interaction and resource exchange between agents in a policy network. In his view, policy outcomes are the result of the bargaining processes between the actors.

Third, Dowding emphasises the utility of adopting a formal approach (derived from either the sociological network tradition or from rational choice theory) in

order to be able to generalise about the structural properties of the networks and their relationship to policy outcomes. For him, a bargaining model of power paves the way for understanding how different sorts of resources are articulated in the networks and, therefore, the strategies that different organisations adopt.

Of course, Dowding's critique is closely linked to his epistemological position, a point stressed by Marsh and Smith in their response to Dowding (for a further discussion of this debate, see Section 3.4).

There are a number of scholars who are unconvinced about the utility of the policy networks approach to help explain policy outcomes, but still see a virtue in it. As such, they suggest that, in order to overcome the limitations of policy network analysis, it needs to be combined with other theories, which they see as complementary. In this vein, Marsh points out that Cole and John (1995) combined network theory with *regime theory*, Cairney (1997) with the *advocacy coalitions approach*, and Watt (1997) with both the *advocacy coalition approach* and the *actor-network approach*. Similarly, according to Peters, the literature on advocacy coalitions and epistemic communities can overcome some of the deficiencies of the policy networks (Marsh, 1998b:191).

In a rather different fashion, Benz (1993) suggests integrating rational choice theory and game-theoretical techniques into the analysis of interorganisational networks. Others have attempted to combine the policy networks approach with the different strands of neo-institutional theory (see Blom-Hansen, 1997, for a bargaining view of institutional theory; and Cashore & Vertinsky, 2000, for an attempt to merge institutional theory with a strand of resource dependency theory).

It is clear then that policy networks as a form of interest intermediation have been at the centre of a lively debate. The participants in this debate have come up with different sets of toolboxes in order to resolve the alleged weaknesses of the Marsh-Rhodes approach. Of course, it is open for discussion to what extent these 'solutions' offer the ultimate key to providing a more complete policy analysis. Unfortunately, discussing the extent to which each of these proposals might produce a more useful model is beyond the limits of this dissertation. However, an awareness of this debate helps us to characterise the Interest Intermediation approach to policy network analysis. At the same time, it must be emphasised that Marsh and Rhodes do not claim to have developed a sophisticated theory, but rather see it as a 'work in progress,' needing continuous refinement through raising self-challenging questions. As such, one of the merits of this approach has been its ability to locate itself in an iterative, self-reflection process. Clearly, the empirical work in the two books provides an evolving set of answers to a similar set of questions. There has been a shift from efforts to establish the utility of the policy networks concept as an analytical tool, towards more concrete attempts to develop it as a theory in which causal linkages could be established. However, the outcome was not a developed theoretical

approach, but rather a framework for the development of a more sophisticated approach. In my view, the dialectical model of the policy networks is a step beyond in this theoretical exploration. It offers a framework, which encompasses a multiple set of interrelationship in understanding how policy outcomes come about. I focus on this model in chapter 3.

2.3.2.6 Why focus on the policy networks as a form of interest intermediation

Here, I need to return to the question of why this thesis operates within the British, rather than the continental European, tradition of thinking about networks. Certainly, as emphasised by the Governance school, there are macro-level political, economic and socio-cultural transformations taking place in contemporary societies, and the changing nature of the modern polity is an undeniable feature of this transformation process. As such, the major virtue of the Governance approach is its ability to draw attention to this transformation and to locate policy networks as an emerging mode of governance (as well as hierarchical coordination) in this broader framework.

The growth of policy networks is seen as a positive development within the Governance approach. It is assumed that networks are the best way of dealing with the complexities of contemporary policy making. Consequently, the focus is upon managing the networks in order to utilise their potential to improve governance⁴⁵. This means that the focus of the Governance approach is mainly placed on the network itself and the process of policy making. To the German school, policy networks are merely patterns of inter-organisational relations and, thus, it is crucial to understand the dynamics of these relations in order to explain their operation. In contrast, the Dutch school suggests that what counts most is 'strategic action' within the networks and, hence, the focus needs to be placed on how networks are managed. The Danish school of Governance studied democratic network governance and metagovernance. What is missing in the Governance approach, as reflected in all schools, is any explicit focus on the linkage between policy networks and policy outcomes. The focus is mainly on 'what goes on' in the network, and it is only recently, that attention has been paid to policy outcomes in the Dutch school. As such, outcomes, distinguished as process outcome and content outcome, and the impact of trust and the impact of network management on 'outcome' are being examined in the Dutch school. To put it another way, the key point is that the Governance school operates at a higher level of abstraction than the Interest Intermediation school. It conceptualises policy networks as a governance structure in a changing polity, and there is much less concern about detailed policy outcomes.

⁴⁵ Here, governance does not mean governing but 'good governance' as Rhodes (1997: 47-52) calls it. 'Good governance' is one of the six meanings attributed to governance by Rhodes. The other meanings are: governance as (i) the minimal state; (ii) corporate governance; (iii) the new public management; (iv) a socio-cybernetic system; (v) a self-organising network.

In contrast, my focus is upon how policy networks relate to policy outcomes. Although the focus of this dissertation is not directly linked to the Governance school, it is important to note that some insights will be used from this school where appropriate. Regarding policy outcomes, the British school of Interest Intermediation offers a fruitful starting point: The assertion that 'policy networks affect policy outcomes,' which is axiomatic in much of this literature, focuses upon the linkage between networks and outcomes: the very issue neglected in the Governance school for a long while. As we have seen, the British school does not have a uniform, or clear, view about these links between networks and outcomes; however, they have struggled with this issue, and it is this struggle, and particularly a critical appreciation of Marsh and Smith's dialectical model, that will inform my own work.

Chapter 3

The dialectical model of policy networks

3.1 Prologue: What is in the name?

It is often questioned why the model is called as 'dialectical' (see Dowding, 2001; Raab, 2001; Evans, 2001). Marsh and Smith explain the basic rationale of the dialectical approach as follows:

(...) any attempt to use policy networks as an explanatory variable involves three dialectical relationships: structure and agency; network and context; and network and outcome (Marsh & Smith, 2000:5).

The authors, who are aware of the fact that the term can easily be misunderstood, explain what they mean by 'dialectical relationship'. In their usage,

(...) dialectical relationship is an interactive relationship between two variables in which each affects the other in a continuing iterative process (Marsh & Smith, 2000:5).

The process is easily illustrated if the relationship between structure and agency is briefly considered as below:

It is more adequate to see the relationship [between structure and agency] as dialectical, as involving what Hay terms 'as strategic learning process'. Here, action is taken by an actor within a structured context. The actor brings strategic knowledge to the structured context and both that strategic knowledge and the structured context help shape the agent's action. However, the process is one of almost constant iterations, as the action affects both the actor's strategic knowledge and the structured context, which then, in turn, shape, but of course do not determine, the agent's future action (Marsh & Smith, 2000:5).

3.2 Background of the dialectical model of policy networks

As already mentioned, the Rhodes model (1981, 1986 and 1988) and the Marsh-Rhodes approach (1992a) lie at the background of the dialectical model of policy networks of Marsh (1998b) and Marsh and Smith (2000).

Rhodes, who particularly drew upon the continental European literature on interorganisational relations, emphasised in 1981 two crucial elements of policy networks: structural relationships between political institutions are more dominant than interpersonal relationships; and it is more common that policy networks exist at the sectoral level than at the sub-sectoral level. The work of Rhodes became the starting point of most of the British literature on networks. In their work in 1992, Marsh and Rhodes take the Rhodes model a step further. Just as in the Rhodes model, they acknowledge that the relationships in the networks are structural; and networks exist at the sectoral level. Besides, they emphasise that networks could also exist at the sub-sectoral level; argue that networks affected outcomes; and develop a typology of policy networks (Marsh, 1998a:7). The Marsh-Rhodes approach is further worked out and tested in the book edited by Marsh in 1998. This collection ends with a final chapter assessing the utility and future of policy networks analysis; and raises the need for a more dynamic and dialectical approach. It is this approach which I will examine closely in this chapter.

As a matter of fact, the history of the dialectical approach started slightly earlier: Marsh and Smith developed the basis of the dialectical model in 1995 in a paper that they presented in Cardiff, the UK. In this paper, Marsh and Smith lay out the basics of the dialectical approach of the policy networks. It is an attempt to understand the relationships between and within the departments of the British government (Marsh & Smith, 1995).

As mentioned above, in 1998, in the book *Comparing Policy Networks*, which he edited, Marsh lays out the dialectical model with its diagrammatic schemes. This book includes two other theoretical chapters (Daugbjerg & Marsh, 1998; and Hay, 1998), which, although they do not utilise the dialectical model, aim to establish a theoretically-informed approach to policy networks.

Subsequently, a fuller version of the dialectical model was developed by Marsh and Smith in 2000. They base their model on a critique of four existing approaches to policy networks (2000:4-5):

- (i) The rational choice approach;
- (ii) The structural approach;
- (iii) The personal interaction approach;
- (iv) Formal network analysis.

The rational choice approach: A major proponent of the use of this approach in policy networks analysis is Dowding. According to Dowding, policy networks reflect patterns of interaction and resource exchange between agents; therefore, the major driving force in a policy network which affects the policy outcomes is the bargaining between the actors. For this reason, Dowding argues that the characteristics and preferences of the network participants and the bargaining process within the network need to be analysed and quantified by deploying formal network analysis. In this regard, he first suggests using rational choice

theory in 1994 and, subsequently, integrating bargaining model and game theory in 1995. To Dowding, change in policy outcomes is linked to network change, i.e. changes in the pattern of endogenous resource dependencies within the network (Marsh, 1998a:12-13; Marsh & Smith, 2000:5-7).

Both Marsh (1998a) and Marsh and Smith (2000) are critical about the use of a rational choice approach because it privileges agents and their preferences in explaining policy outcomes. As such, they argue that the rational choice approach neglects the dialectical relationship between the agency and network structure. Marsh and Smith acknowledge that the actions of agents play a role in affecting outcomes, but emphasise that the analysis is more complete when attention is also paid to: 'how the structure of relations between agents, that is the structure of the policy network, may affect the process of bargaining, who bargains and what is bargained over' (Marsh, 1998a:13).

The structural approach: The emphasis of this approach, as developed by Marsh and Rhodes, is on the structural aspect of the networks, rather than the interpersonal relations within the network. Marsh and Rhodes see policy networks as structures of resource dependency. As such, the structural links between the interests involved in the network need to be analysed in order to explain policy outcomes. This approach suggests that exogenous political, economic, ideological and knowledge-based factors play an influential role in explaining both network change and policy change (Marsh, 1998a; Marsh & Smith, 2000).

Marsh and Smith contrast the structural approach with that of Dowding. They criticise this approach for both privileging structure in explaining policy outcomes and emphasising exogenous factors in explaining network change and policy change. In fact, they argue that, while structures can shape outcomes, agents interpret, and change, these structural relationships. In a similar vein, agents also interpret the broader context, thus, the behaviour of agents affects both the structure of the networks and the broader context within which the network operates (Marsh, 1998b).

Hay also warns against the 'reification of the network structure' (1998:34-35). He argues that there is a general tendency in policy network analysis to: 'concentrate upon mapping the contours of the network structure at the expense of considering the *process* and *practice* of networking' (emphasis in original). This results in what he calls:

'contextual parochialism' – 'a concern with the network itself and not with the broader context within which it is (necessarily) embedded and within which the strategic motivations and intentions of the 'networkers' are necessarily formulated (Hay, 1998:35).

Hay argues that this, in turn, leads to a certain methodologically imposed tendency to treat the network as a static and invariant *structure* (emphasis in

original). In contrast, he proposes a more dynamic approach to the study of policy networks which examines the evolution of a network and the process of networking from beginning to end. I return to this point in Section 5.2.

The personal interaction approach: In Marsh and Smith's view, this is an anthropological approach developed by McPherson and Raab (1988). In their work on 'governing education', they emphasise that 'networks [in this approach] are based on personal relationships between known and trusted individuals who share beliefs and common culture' (Marsh & Smith, 2000:5).

Formal network analysis: Laumann and Knoke (1990), the leading advocates of this type of analysis, argue that what crucially defines a network is the position and roles which actors perform and the relationships between these roles, not the individuals who occupy the roles. This approach clearly contrasts with the personal interaction approach (Marsh & Smith, 2000:5).

3.3 Rhetorical questions and propositions underpinning the dialectical model

On the basis of a critical examination of the four approaches to policy networks as discussed in Section 3.2, the dialectical approach to policy networks was developed.

However, initially, Marsh unpacked the proposition that 'networks affect outcomes' by raising three questions. These questions lead to three subsidiary propositions (1998b:193-194). The analysis of these propositions forms the background of the initial dialectical model.

The first question is:

'Is change in the policy outcome related to change in the policy network?'

We need to understand why this question is raised. The subsidiary proposition related to this question brings some insights:

'Change in the policy network is associated with change in the policy outcome'.

According to this proposition: 'two separate, but related, aspects of the policy network affect the outcome: the structure of the network and the interaction between the actors in the network' (ibid.:193). A pivotal role in linking these two aspects of the policy networks to the policy outcome is attributed to resources. On the one hand, interaction between the actors is seen as a product of the resources controlled by the actors, as well as the skills they use – which are partially 'innate' and partially 'learnt by experience'. It is this interaction, Marsh argues, which shapes the policy outcome. On the other hand, resources reflect the structural position occupied by the group which the actor represents. Therefore, there is a need to examine the changes in each of these relationships

in order to explain the change in the policy outcome. This proposition throws up more sophisticated questions such as:

- What is the relative importance of the structure of the network and the interaction of the agents within the network to policy outcomes?
- What are the relative importance of the resources which the actor possesses as a representative of a group and the personal skills of the actor?
- Why do some actors possess more resources than the others?
- How important is the process by which actors learn from experience?

The second question is as follows:

'Is change in both the network and the outcome the result of change in a third (or fourth) variable?'

In order to understand this question better, let us have a look at the subsidiary proposition related to this:

'Change in both the network and the outcome might be explained by some other factor(s).'

In his attempt to identify these factors, Marsh refers to the 'contextual factors' which, as the case studies in the 1998 volume he edited suggest, can vary from political and/or economic structure to knowledge.

This proposition leads to the following, more sophisticated, question:

- What are the relative importance of the structure of, and interactions within, the network and the context within which the network is located, in relation to change in the policy network and change in the policy outcomes?

The third and final question is:

'What is the causal direction; does change in the policy network lead to change in the policy outcome?'

What does this question mean? The subsidiary proposition connected to this question asserts that:

'The policy network is affecting the policy outcome, rather than vice versa.'

This proposition denotes the need to establish causal direction, i.e. examining changes in the policy network and changes in policy outcomes over time in order to discover the temporal sequence. Marsh stresses that this has significant methodological implications. At this point, the dynamic approach to the study of policy networks proposed by Hay (1998b:192) appears pertinent. In examining the interlinkages between network change and policy change, a longitudinal study of the sort suggested by Hay would consider the following elements: (i) the

pre-network stage; (ii) network formation as *process*; (3) networking as *practice*; (iv) network transformation (Hay acknowledges that this has been touched upon by Marsh & Rhodes, 1992; Smith, 1993); (v) network failure; and (vi) network termination. Although he does not use these terms, Marsh (1998b:192) acknowledges that: 'every analysis of networks and their putative effect on outcomes should emphasize the origins, development, and, if appropriate, termination of the networks; more specifically, we need a dialectical approach'. By this, he implies that the dialectical model adopts a temporal approach, which involves analysing the process of networking.

These questions and the related propositions amounted to an intellectual challenge which led to the development of the three major building blocks of the dialectical model, which are discussed in the next section.

3.4 What is the dialectical model about?

As presented in Section 3.2, the dialectical model of policy networks is based upon critiques of four existing approaches to policy networks analysis, particularly the rational choice approach and the structural approach. It appears that all these models attach special importance to a single variable in explaining policy outcomes, such as: 'networks as structures of resource dependency' in the structural approach; 'bargaining between the actors' in the rational choice approach; 'personal relationships between known and trusted individuals' in the personal interaction approach; and 'the position and roles which actors perform and the relationships between these roles' in the formal network analysis.

According to Marsh and Smith (2000), these approaches fail to acknowledge the dialectical relationships necessarily involved in explaining: 'whether and how policy networks affect policy outcomes'. Marsh and Smith (2000:5) define a dialectical relationship as: 'an interactive relationship between two variables in which each affects the other in a continuing iterative process'.

Furthermore, the three interrelated questions and propositions, raised in Section 3.3., underpin the key elements of the dialectical model, by highlighting three dialectical relationships, with the aim of transcending some dualisms evident in the existing literature. The aim is to move: i) beyond network structure versus resource exchange among agents; ii) beyond network versus context; and 3) beyond networks versus outcomes (Marsh, 1998b; Marsh & Smith, 2000). In practice, these dialectical relationships are so interwoven that it can be difficult to clearly distinguish between them. However, in theory, we treat them as separate entities.

3.4.1 Beyond network structure versus network agency

The first dialectical relationship occurs between the two essential components of the network: *network structure* and *network agency*. As such, the aim is to

reconcile the structural approach of Marsh-Rhodes, which views the network structure as the motor of change in policy outcomes, and the intentionalist model of Dowding, which sees the bargaining between actors as the key influence on the policy outcome. In the dialectical approach, neither structure nor agency alone is the primary determinant of change in policy outcomes. Instead, it is the mutual interaction between the two components which leads to changes in both the structure and agency, and also in the policy outcomes. The dynamics of this mutual interaction is outlined in Figure 3.1.

In Figure 3.1, network agency is most evident in the term 'network interaction'. Actors are involved in network interaction; *on the one hand*, by using their skills, which are partially innate and partially learnt by experience, and, *on the other*, by using their resources, which are linked to network structure. More information about agency is provided in the dialectical model of policy networks, as developed by Marsh and Smith, according to whom, there are three important points about the actors: (i) the interests and preferences of actors may be influenced by other group memberships; (ii) structures do not automatically exert constraints and opportunities on agents: it depends on how agents discursively construct those constraints and opportunities; and (3) network actors have skills which affect their capacity to use opportunities or negotiate constraints (Marsh & Smith, 2000:6).

Hence, when network structure and agency are viewed within a dialectical relationship, they are both subject to change as a result of the interaction between them and their interaction with some other factors. That is to say, a policy network, as a political structure, changes partly because the agents interpret, deconstruct and reconstruct these structures and, on the basis of that interpretation, take strategic decisions; and partly because of changes in the broader context in which the network is located and how agents interpret those changes. In a similar fashion, the broader structure exerts influence on the strategic decisions of the actors, which leads to a change in the network structure. The role of exogenous factors in both network change and change in the policy outcomes creates a second type of dialectical relationship, and is the subject of Section 3.4.2. However, what is important at this point is that agents are located in a 'structured context,' partially formed by the network structure and partially by the broader structure. Agents do not have direct control of the structured context, but they do interpret that context, and this affects their strategic calculations.

It is acknowledged that the relationships in a policy network may be both structural and interpersonal. However, there is a tendency to emphasise the structural relationships, which fulfil several functions: (i) defining the roles which actors play within networks; (ii) prescribing the issues that are discussed, and how they are dealt with; (iii) shaping a distinct sets of rules; and (iv) containing organizational imperatives, so that, at the very least, there is major pressure to maintain the network (Marsh, 1998b:195). The structural links in a network are seen as almost being synonymous with the resource dependencies. However,

these resource dependencies are treated through the lens of agency. Thus, the focus is upon the ability of agents to discursively construct resource dependencies and the effect of these constructions upon, first, agents' behaviour, and, subsequently, policy outcomes. The argument is that, first, network structure and agency are in a continuous iterative process of mutual influence; and, second, that the broader context, although seen as one element of the second dialectical relationship, also exerts influence on both structure and agency.

3.4.2 Beyond network versus context

As we saw, the broader context within which policy networks operate plays a role in affecting both structure and agency. In essence, the broader context forms the 'outer layer' of the 'structured context', where the inner layer is formed by the network structure; it is within this double-layered context that actors interact with each other and with each of the two elements of the structured context. The dialectical nature of the relationship between the network and the context implies that: 'network structure, network change and policy outcome may be partially explained by reference to factors exogenous to the network, but those contextual factors are dialectically related to the network structure and network interaction' (Marsh, 1998b:195-196; Marsh & Smith, 2000). This interwoven positioning of the network structure, network actors and the broader context in fact reflects the second dialectical relationship in which the emphasis is on the role of exogenous factors. As can be observed in Figure 3.1, the structural context interacts both with the network agency, mainly via the actor's resources, and with network structure.

It is also important to note that some exogenous factors can be inherent in the policy network structure. That is to say: 'broader patterns of structured inequality' based on class, gender or ethnicity can be observed in a policy network, for instance, in the way structural positions are occupied by the actors (Marsh, 1998b; Marsh & Smith, 2000).

The search for causal links between the different variables generates a number of questions. If network change exerts influence on policy outcomes, it is inevitable that the next question becomes what causes change in the network. In answering this question, the case studies in the 1992 and 1998 volumes highlighted the role of exogenous factors within the broader context in which the particular network examined was located. Marsh and Rhodes (1992), in reflecting on the case studies in the 1992 book, suggested that four major exogenous factors, i.e. political structure, economic structure, ideology, and technology/knowledge, were implicated in network change. Subsequently, Marsh (1998b) acknowledged the importance of other policy networks⁴⁶ of which the

⁴⁶ This phenomenon is similar to the 'ecology of games'. Here, 'the games give structures, goals, roles, strategies, tactics and publics to the players. Players in each game make use of players in the others for their particular purposes' (Long, 1958:251). Later, the ecology of games was elaborated by Klijn (1996) who argued that 'policy is a result of ecology of games'. As such,

network actors are members, supranational institutions and 'public opinion' (see Toke & Marsh, 2003). However, what is crucial here is that the influence is not one-way, but rather mutual, since network actors mediate and interpret the exogenous context, and this interpretation influences the structures, rules, norms and the interpersonal relationships within the networks. So, here Marsh is following the argument of Stones (1992) that any simple distinction between endogenous and exogenous factors is misleading (Marsh, 1998b:196-197).

3.4.3 Beyond network versus outcomes

So far, we have focused upon the assertion that policy networks affect policy outcomes. This has somehow implied that the causal direction of influence was from the network towards the outcome, not vice versa. In contrast, Marsh and Smith argue that policy outcomes may in fact exert influence on the network. Such influence can be exerted 'directly' on the network structure and network agency. There is at the same time influence of policy outcome as a feedback loop on the structured context and the strategic learning of the actors. The diagrammatic scheme including networks and outcomes is outlined in Figure 3.1.

3.5 The dialectical model

Marsh and Smith (2000:9-10) identify the specific characteristics of the dialectical model. As such:

- The broader structural context affects both the network structure and the resources that actors have to utilise within the network.
- The skill that an actor has to utilise in bargaining is a product of their innate skill and the learning process through which they go.
- The network interaction and bargaining reflects a combination of the actor's resources, the actor's skill, the network structure and the policy interaction.
- The network structure is a reflection of the structural context, the actor's resources, the network interaction and the policy outcome.

actors interact with each other in games but this also takes in an interconnected but loosely coupled series of games elsewhere in the network, which has an influence on the ecology of games. The ecology of games in this respect resembles an embedded broader context of other games that actors play; and this means that the choice of strategies of individual actors is affected by other games in which the same actor participates. The existence of an ecology of games leads the actors to accept implicit or explicit rules of behaviour. The existence of ecologies of games that, in their turn, are connected to other ecologies of games, leads to the development of social patterns between actors (Klijn, 1996:100) (see also Section 2.3.2.4).

- The policy outcome reflects the interaction between the network structure and network interaction.

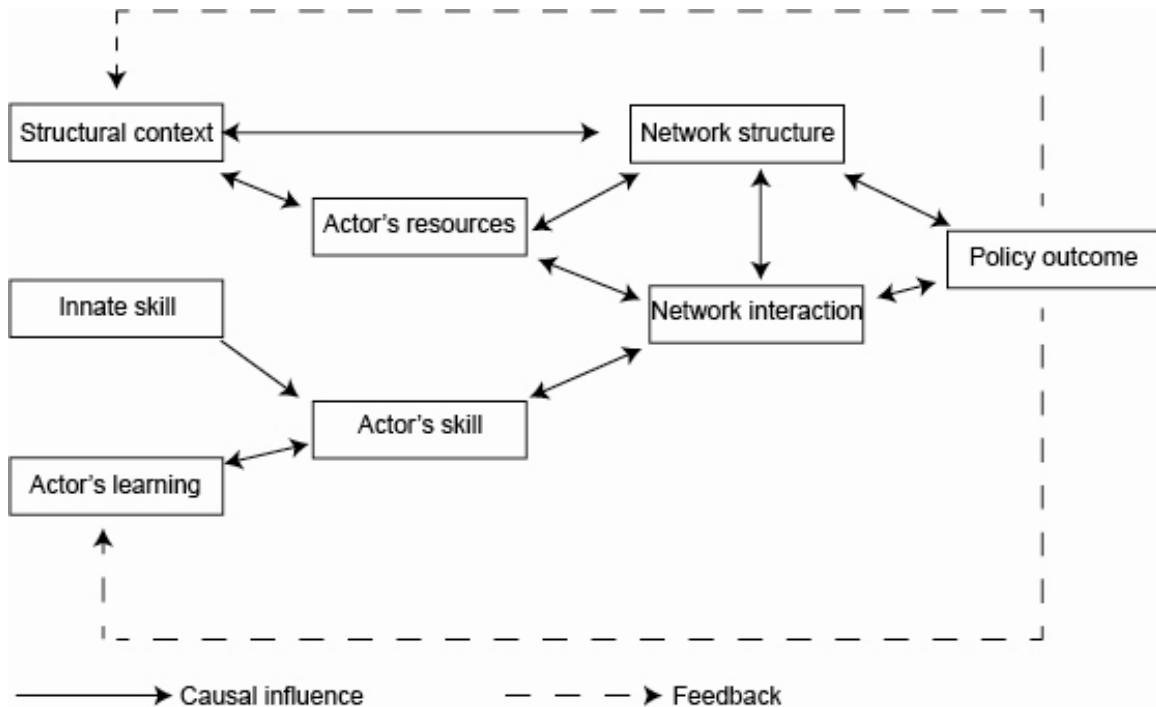


Figure 3.1: Policy networks and policy outcomes: A dialectical approach
Sources: Marsh (1998b); Marsh and Smith (2000).

They state that almost all relationships are interactive or dialectical. This is reflected in the fact that the arrows are two-way.

3.6 Critiques on the dialectical model

In 2001, the dialectical approach sparked an academic debate in *Political Studies*, the journal of the UK Political Studies Association. Once again the major critique comes from Keith Dowding, a rational choice theorist, who again contended that the policy networks concept did not help to explain policy outcomes. Charles Raab also responded to Marsh and Smith, who classified the McPherson and Raab approach to the policy networks as an anthropological approach. Finally, Mark Evans, drawing on Benson's work, discussed a more extensive way of deploying the term dialectics. In reply, Marsh and Smith (2001) published an article responding particularly to Dowding's critique.

Dowding, Raab and Evans are all critical about the use of the term 'dialectical', which they see as potentially confusing because the term dialectic has a long and

rich history of usage in varying philosophical contexts, ranging from Plato to Fichte and Engels (see Williams, 1990, as cited by Evans, 2001). More specifically, Evans (2001) argues that the particular usage of the term 'dialectic' by the authors is rather limited. He suggests that it would be preferable to utilise Benson's (1977) classification which identifies four key dimensions of a dialectical approach to modern organisations: social production; totality; contradiction; and praxis. It is important to note that Benson's dimensions share some similarities with the basic principles of the dialectical model of Marsh and Smith. In fact, what the dimensions identified by Benson offer is a reformulation of implicit elements of the dialectical model of Marsh and Smith.

Benson's *social production* dimension (cited in Evans, 2001:545-546) highlights the fact that policy networks are dynamic entities, which are continuously being reproduced by the social construction of their major features, such as: 'power dependency, goals, dominant coalitions and appreciative systems, processes of exchange, rules of the game etc'. In addition to this dynamism, the relationships in the policy networks are stable, which reflects a common socially and politically construction of past actions. Thus: 'an orderly pattern is taken to be a contingent outcome of the process of social and political construction, whose emergence and maintenance demands explanation' (ibid.:545). According to Benson, there are three sets of principles of social construction: namely, ideas and actions, interests and power, which can guide an empirical investigation. With regard to the dialectical model, Benson's work could be used to highlight how actors and the structure of a network are involved in a continuous interaction process.

Benson's *totality* dimension (cited in Evans, 2001:546) suggests viewing policy networks as a part of broader totality of governance in which they are intricately linked to the larger society – not only to macro-structural features, such as the global economic and political systems, but also to the everyday activities of people. Once again, this dimension is in line with the view of Marsh and Smith, which places networks in a broader context.

Although he does not link it directly to the *totality* dimension, Evans focuses upon two levels of organisational reality: morphology, and substructure (ibid.:546-7). Morphology –in the context of policy networks – refers to the observable regularities within a network and involves four aspects: network goals; network structures; network rules; and network linkages with the external environment. Network substructure, on the other hand: 'provides the basis for the transformation of network morphology – a non-rationalised sphere of organisational action, a complex network of relations linking participants to each other and to the larger social world in a multiplicity of unregulated ways'. A fundamental example of the substructure is: '(the) power structure which generates changes within the morphology'. The two levels, morphology and substructure, are inherent in the dialectical relationships between structure and agency and, to a lesser extent, network and context in the Marsh and Smith model, although in a more diffused and amorphous way. Benson's model offers a

relatively more systematic way of looking at these components and their interrelationships.

Benson's *contradiction* dimension (ibid.:547) emphasises that the social order produced in the process of social construction is not always predictable, but might be inconsistent and incompatible with the fabric of social life. Although Evans relates the contradiction dimension to policy change and continuity, his explanation is based on network change. He suggests that, although contradiction – in the form of inconsistencies and incompatibilities in the interpersonal relationships of network actors – originates from exogenous factors, it is in fact induced by the way actors' behaviour is affected on by these external forces of change. This dimension thus clearly relates to the interactive relationship between the broader context and network agency in the Marsh and Smith model.

Among the four dimensions, *praxis*⁴⁷ is perhaps the vaguest and the least convincing one. It is argued that the praxis dimension –when applied to policy networks – stresses the tendency of actors in close-knit policy communities to be dynamic, rather than inert. This is because actors in a network setting are assumed to have the capacity to introduce new ideas and theories in relation to their activities. This argument rejects the earlier axiomatic link between policy communities and policy stability. As Evans argues: 'the concept of praxis [...] helps to reinforce the argument that networks are a source of power per se and explains how networks emerge and why change is likely to be incremental rather than radical' (ibid.:548). However, the explanatory capability of the praxis dimension and the actors' capacity to introduce new ideas and theories are not further clarified.

In sum, at least the first three dimensions of Benson's construction of a dialectical approach to the modern organisations – as applied to policy networks by Evans – can clearly be integrated with the dialectical model of Marsh and Smith. As Evans suggests: 'an approach which combines and refines certain of the core elements of both Benson's and Marsh and Smith's dialectical approaches might make stronger knowledge claims; however this requires detailed empirical research' (ibid.:549). Indeed, Marsh and Smith acknowledge that this might be a fruitful line of development in their response.

Raab (2001) takes issue with Marsh and Smith's classification of his work with McPherson (McPherson & Raab, 1988 cited in Raab, 2001), in that it deploys an anthropological approach, focusing purely on interpersonal relationships. Raab agrees that their work confirms the role of agents, but also shows that focusing on agency does not mean abandoning issues of context and structure. Raab acknowledges the value of Marsh and Smith's attempt to give agency an equal

⁴⁷ According to Benson (1977) praxis is 'the free and creative reconstruction of social arrangements on the basis of a reasoned analysis of both the limits and the potentials of present social forms' (cited in Evans 2001:548).

status with network structure in explaining the development of networks and policy outcomes, so avoiding the: 'prevailing tendency of policy networks literature to focus on the structure and remain at the 'macro' level of analysis' (ibid.:551). He also observes that Marsh and Smith follow McPherson and Raab, and he recognises the importance of the cultural dimension, but rejects Marsh and Smith's identification of culture with agency. McPherson and Raab do not agree that their work had to do with agency as distinct from structure, for it explained the making of policy, and policy outcomes, through an analysis of the interactions of identified persons that stretched across central and local government, pressure groups, appointed bodies and schools (in the Scottish education system)' (ibid.:553).

Raab is critical of the diagrammatic scheme of Marsh and Smith, illustrating the dialectical model in two respects. First, he argues that it involves a somewhat arbitrary collection of elements. As such, the two-way arrows are all of equal thickness, and some of the boxes lack obvious connecting arrows: for instance, between actor's skills or actor's learning and actor's resources, and between structural context and actor's learning. Second, he contends the diagram fails to show how the model should be used to guide research, both conceptually and methodologically, although the case study of agricultural policy is indicative of how the model can be used. On the one hand, he asserts that the views and behaviour of agents are given a central role in understanding the relationships within a network, while the role of wider structures is also acknowledged. However, he is sceptical about how it is possible to get to know enough about, for instance, actor's skills, learning and perceptions of their resources (ibid.:551).

As far as the diagrammatic scheme is concerned, Dowding is also critical. He argues that it is necessary to: 'break down the relationships as described in the scheme in order to try to make sense of them analytically – to analyse them – and then to examine them empirically' (2001:102). However, he suggests this examination should be done using quantitative measurement.

Furthermore, Dowding (2001) raises a number of critiques of the policy networks approach in general and the dialectical model in particular. I do not intend to examine all his remarks and critiques in depth here, but I shall highlight a number of them. Dowding (ibid.:89) begins by reasserting that network analysis should go beyond a metaphorical usage of the concept. For him, this can be done by adopting a sociological network analysis. He clarifies his position by explaining that this type of network analysis demonstrates important structural features of networks which cause certain types of policy outcomes, and thereby map structures of power.

Dowding argues that he is unjustly considered to privilege agency. He argues that network analysis produces genuine structural explanations, demonstrating that different network forms have independent effects (independent from the properties of the actors) on types of policy outcomes. He believes that structural

lines in a policy network can be drawn based on the relationships between the actors, rather than on the characteristics of the actors themselves (ibid.:101). He does not believe in the distinction between structure and agency. He contends that the different types of networks that exist have certain properties, which may be modelled in terms of agent characteristics and structural characteristics to produce descriptive and causal inferences.

Dowding argues that the Rhodes model is a non-formal model; that is a classification of certain features of the policy process from which some descriptive and causal inferences can be drawn. He privileges formal models over non-formal ones, arguing that the former represent the features of the descriptive non-formal model by symbols which we are able to manipulate in order to deductively draw conclusions. In this way models are produced from which we can derive hypotheses which can be tested against empirical data (ibid.:91-95).

In relation to the dialectical model, Dowding argues that a careful descriptive history can explain the process of policy formation and implementation, so a dialectical model adds no value here. However, only formal modelling can identify the relevant causal factors and show which factors are the most important (ibid.:97-98).

In addition to these direct criticisms of the dialectical model, there are other contributions which help us to reflect on its utility. So, Hay (1998:35-36, and 41-51) proposes a *dialectical* or *strategic-relational* approach to networks. This is an appraisal of network analysis from the strategic relational approach inspired by Jessop (1990, cited in Hay, 1995:199). Hay argues that a strategic relational approach does not offer a theory of (policy) networks, but rather applies a theory of (collective) strategic action to the social practices involved in networks. Such an approach seeks to locate the networks within a broader account of the embeddedness of strategic social actors within contexts which are, in Jessop's terms, 'strategically selective'. In order to counter the tendency towards the reification of networks as structures, and as merely configurations of structural locations, Hay suggests we should see networks as merely one expression of collective strategic action. This suggestion, on the one hand, attempts to avoid the privileging of structures, but, on the other hand, it seems to put emphasis on the strategic actions of network actors, perhaps privileging agency. What differentiates this perspective from the rational choice approach, which ascribes a leading role to agents, is its ability to locate the strategic action in a broader context which is strategically selective.

In their general critique of the policy networks approach, Atkinson and Coleman (1992) consider three important issues which they argue need to be resolved if the concepts of policy networks and policy communities are to make a contribution to policy analysis:

- (i) Network and community concepts have encountered obstacles in incorporating the influence of macro-political institutions and the power of the political discourse;
- (ii) They have some difficulty in accommodating the internationalisation of many policy domains;
- (iii) They have not adequately addressed the issues of policy innovation and policy change (ibid.:54).

Looking back over the discussion about the opportunities and limitations of the dialectical model it seems that the dialectical model seems to have overcome some of the critiques developed by Atkinson and Coleman, although that was not its aim.

First, its focus on the *broader structure* within which the network operates deals with what Atkinson and Coleman call the role of macro-political institutions. This aspect of the model also answers Hay's (1998) related criticism that policy networks analysis pays insufficient attention to the broader context within which the network is embedded. According to Hay, the strategic motivations and intentions of the networkers are formulated within this context. If these factors are not taken into consideration, networks appear as static, unchanging structures.

Second, although the dialectical model does not directly address the *internationalisation* of policy domains, case studies using the model do consider this dimension. For instance, the European Union is identified as a part of the broader context within which the policy network operates, both by Marsh and Smith (2000) and Toke and Marsh (2003).

Finally, with respect to policy innovation and policy change, some efforts to reflect the latter – if not the first – are evident. At this point, adopting a longitudinal method might facilitate an overview of policy change, as well as network change over time.

Some years later, Kisby (2007) analysed the dialectical model of Marsh and Smith (2000), and its empirical application, conducted by Toke and Marsh (2003). While acknowledging the model and its application to a large extent, he makes a major critique of the Marsh and Smith model, asserting that:

[Marsh and Smith] pay little attention to the role of ideas in explaining policy making, emphasising instead the importance of analysing the structural position of different interests in civil society... [they] focus on actors' resources and their capacity to act, rather than their motivation for acting, and to the extent that they are concerned at all with this they assume that the reason some ideas are dominant is because of the dominance of particular interests (Kisby, 2007:78).

Therefore, Kisby proposes an ideational variant of the model. In this variant, he sets out a theoretical framework for analysing policy making that builds on the strengths of Marsh and Smith's (2000) model, but which treats what Berman

terms the 'programmatically beliefs', which motivate members of the policy network as an independent variable (2007:71-2). Berman (cited in Kisby, 2007) distinguishes two contrasting forms of political ideas: ideologies; and policy positions. The former are worldviews, which are, for her, 'too broad to be useful', while the latter are 'maybe too narrow to be interesting'. Therefore, Berman argues in favour of analysing a third form of political idea, situated at the meso-level, the above mentioned 'programmatically beliefs'. According to her, programmatically beliefs provide the ideational framework within which programmes of action are formulated, i.e. they enable actors to develop specific policy proposals (cited in Kisby, 2007:81). This is different from how Marsh and Smith see the notion of discourses as simply rhetorical devices used by actors to justify their already determined ideological or policy ends. Therefore, for Kisby it is important to examine not just the structural context within which policy is developed, i.e. why particular interests have a privileged position in influencing policy decisions, but also the interaction between the structural and ideational contexts (ibid.:78).

In this respect, he adds in the diagrammatic scheme the ideational context as a separate variable next to the structural context. Ideational context has casual influence on the policy outcome via programmatically beliefs. This influence is exerted via network structure and network agency (network interaction). Ideational context also interacts with the structural context not only directly but also via the programmatically beliefs.

3.7 The Response of Marsh and Smith to the critiques

In an article, Marsh and Smith (2001) responded to the critiques of policy networks in general, and of the dialectical approach in particular, and here I focus upon some selected aspects of their response.

First, they take issue with the critique of their use of the term 'dialectical'. Marsh and Smith (2001) emphasise that they do not follow the classical, Hegelian, usage, but rather use the term in the way in which it is employed in the structure/agency literature (see, for example, Hay, 1995).

Second, in response to Dowding's argument that it is essential to develop a formal model of networks, Marsh and Smith (2001:533) argue that the use of such models is less appropriate in the social sciences because: (i) they fail to express the complex social reality and particular the role of reflexive agents; (ii) most formal rational choice models are partial because they assume both the preferences and the decision-making scheme of agents, and, as such, tend to ignore crucial questions about the origins of both; (3) in social science the data is rarely available to test formal models.

In addition, they also contend that both Dowding and Raab privilege actors and ignore, or downplay, the role of structure. In response to Raab's critique, Marsh and Smith acknowledge that their own position might seem to overemphasise the role of structure. However, they reassert their view that, while Dowding claims to pay attention to structure, he defines it almost entirely in terms of the preferences of the actors, and so his explanation is an intentionalist one (ibid.:537).

Here, the comment of Kisby, in his analysis of Marsh and Smith model, to Dowding's critique is interesting:

It is ironic that despite his strong emphasis on analysing individual action and his neglect of social structure, Dowding's preferred rational choice approach turns out itself to prioritise structure over agency. For rather than seeking to analyse an actor's behaviour in terms of that actor's understanding of what they are doing, the logic of rational choice analysis is, as Hay points out, that the behaviour of an actor in a given context can be predicted simply through an analysis of that context, because for rational choice theorists there is only one 'rational' path for a particular actor to pursue in objective, given circumstances. It follows that for rational choice theory 'context determines conduct, structure determines agency' Kisby (2007:76).

Marsh and Smith provide responses to other critiques (Marsh & Smith, 2001:533-9), but the core of their response focuses upon their epistemological difference with their critics, especially with Dowding (ibid.:528-32). This is unsurprising, given that they argue that: '(the) epistemological position of a researcher is reflected in what is studied, how it is studied and the status the researcher gives to his/her findings' (ibid.:531).

In more detail, Marsh and Smith link Dowding's tendency to privilege formal models and quantitative analysis to his positivism, while they consider themselves as epistemological realists (for further discussion on this, see Marsh & Furlong, 2002). Although both realism and positivism operate with foundationalist ontology, a key difference between the two lies in the way they treat observations. While positivism privileges direct observation in explaining social phenomena, realism acknowledges the role of deeper, structural, relationships which may not be directly observable (Marsh & Smith, 2001:529). In this regard, according to Marsh and Smith, Dowding's focus upon agents, 'and, in particular, an agent's ability to use incentives to manipulate other agent's preferences' (ibid.:530), inevitably privileges direct observation. In contrast, Marsh and Smith emphasise three differences between their realism and Dowding's approach.

First, to them, structures, whether social, economic or political, shape/affect the pattern of resource dependencies in a network. So, they suggest that structures shape the actions of agents. *Second*, they contend that there are deep structures which cannot be directly observed. Thus, in their view there is a division between appearance and reality. *Third*, they acknowledge, in line with modern critical

realism, that the world is to an extent socially constructed, although the form of the social construction of institutions or processes is constrained by deeper social relations (ibid.:530).

Marsh and Smith thus contend:

A positivist looks for causal relationships, tends to prefer quantitative analysis and wants to produce 'objective' and generalizable findings. Indeed, as a consequence, much of the research is data driven rather than driven by interesting or important questions. [...] The realists are looking for causal relationships but think that many important relationships between social phenomena cannot be observed. This means they may use quantitative and qualitative data. The quantitative data will only be appropriate for those relationships that are directly observable. In contrast, the unobservable relationships can only be established indirectly; that is they are inferred from the researcher's theory and other observable relationships (ibid.:531).

As such, theory plays different roles in positivist and realist epistemologies:

[to positivists] there is an independent world that is governed by laws. The role of the social scientist is to identify those laws (and use them to predict outcomes) through the creation of theories that are able to generate testable hypotheses [which are capable of being falsified]. To realists, theory is used to establish which social relationships are observable and to interpret the results achieved. The [final] aim is to develop analytical frameworks that help [us] to interpret the complex world. [...] for realists, social structures are not independent of agents and may only be relatively socially enduring (see Hay, 1995:192). The role of theory in realism is to contextualise observable behaviour by using theory to infer the underlying structures of a particular social situation (ibid.:532).

Marsh and Smith locate their dialectical model of policy networks within an epistemological framework rooted in critical realism. In this regard, their model does not provide a 'definitive explanation' in positivist terms but, rather, 'present(s) an interpretation based on empirical observation and theoretical inference' (ibid.:532). As such, they:

(...) do believe in the possibility of developing causal explanation of policy outcomes, [...] which must recognise that institutions like networks, the cultures within networks and the resources and attitudes of network members are all, to an extent, socially or discursively constructed. [...] All the relationships, but particularly that between structure and agency, are dialectical. This also means that we could never envisage a simple causal model, which predicted that a certain network structure, or a particular set of resource dependencies within a network would lead to a particular policy outcome (Marsh & Smith, 2000:10-1).

The dialectical model offers a framework within which researchers can interpret the relationships between policy networks and policy outcomes; it does not offer a hypothesis about what that relationship will be. The role of the model is further clarified by Toke and Marsh (2003:232):

Marsh and Smith do not offer a predictive model. [...] Rather they argue that focusing upon [the three dialectical] relationships helps identify the questions we should ask in studying any policy case study, that, using their model/framework, we can assess what role the policy network played in affecting policy outcomes and policy change in any particular case.

Overall, the major part of the Marsh and Smith response to the critiques is devoted to establishing the epistemological position of the dialectical model in Political Science. The dialectical model of policy networks is not a predictive model with clearly defined testable hypotheses about the relationship between certain types of policy networks and certain policy outcomes. Instead, it offers a framework based on three fundamental dialectical relationships which can be used to help identify the existence, or not, of causal relationships between policy networks and policy outcomes in a particular policy area. In this regard, the dialectical model does not offer a generalised explanation of policies produced in different contexts or sectors by different type of networks. Marsh and Smith (2000) and Toke and Marsh (2003) continue further with an application of the model in two cases where they attempt to assess the utility of the model. I elaborate on that in Chapter 4.

Chapter 4

A critical review of the dialectical model of policy networks

4.1 Introduction

In Chapter 3, the dialectical model of Marsh and Smith was examined. The rise and evolution of the model was outlined; and an overview of the critiques of the model and the response of Marsh and Smith to these critiques were discussed. In this chapter I develop a critical review of the dialectical model before presenting a revised version of it in Chapter 5. The revised version will provide the analytical framework of this dissertation; which will inform the empirical work in Chapters 6 and 7.

This chapter focuses on the theoretical and empirical applications of the dialectical model in the subsequent two sections. In Section 4.2, I present my review of the dialectical model of policy networks based on the literature as discussed in Chapter 3. In addition, I take into account the brief theoretical introduction of the two articles, in which the model was empirically tested. In Section 4.3, I consider the empirical application of the model, based on the two case studies: the first is on the British agricultural policy making (Marsh & Smith, 2000); and the second is on the genetically modified crops issue in the UK (Toke & Marsh, 2003). In Section 4.4, I summarise the critical review and specify with the major limitations of the dialectical model. These limitations inform the revision of the dialectical model in Chapter 5.

4.2 Some inferences from the dialectical model

As we saw earlier, the dialectical model of policy networks is a sophisticated version of a particular strand of the policy networks approach within the British Interest Intermediation school, whose evolution started with the Rhodes model in the mid- and late-1980s, and developed with the Marsh-Rhodes approach during the 1990s.

Throughout this evolutionary process, what remained the same is the view that policy networks are a meso-level concept (Rhodes & Marsh, 1992a; Daugbjerg & Marsh, 1998; Marsh, 1998a). On the meso-level the relations between government and interest groups are examined. In addition, it is also necessary to

pay attention to both intra-governmental and intergovernmental relations (Marsh & Smith, 1995). However, any examination of the role of policy networks has to link this meso-level of analysis with the macro- and micro-levels of analyses. In this vein, Daugbjerg and Marsh (1998) consider how to link policy networks, as a meso-level concept, with macro-level theories of state and micro-level theories of actor behaviour, in order to produce a more complete explanation of policy development. However, this remains a theoretical discussion, and the only article which considers this issue empirically is of Daugbjerg (1999), which attempts to analyse how policy networks and broader institutional structures at the EU level have played a role in reforming the Common Agricultural Policy (CAP).

In my view, the dialectical model offers the opportunity to connect these three levels, even if, to date, these linkages are underdeveloped. For example, I would argue that the emphasis upon the broader context in the dialectical model involves an inevitable, if under-theorised, interest in the macro-level. Similarly, a concern for integrating the micro- and the meso-levels is evident in the emphasis in the dialectical model on network interaction, more specifically in its focus on the behaviour of actors, who are assumed to be strategically calculating subjects. This aspect of the dialectical model is also acknowledged by Evans (2001).

When compared with its two predecessors, the dialectical model offers a sounder and more extensive framework for explaining the interlinkages between policy networks and policy outcomes. This framework involves three dialectical relationships; i.e. between network structure and network actors; between network and context; and between network and policy outcomes. Let us now overview some of the inferences per dialectical relationship.

The dialectical relationship between network structure and network agency

One of the strengths of the model is its acknowledgement of the importance of the structure/agency debate, one of the perennial issues in social science. As such, the *first* dialectical relationship posited is that between network structure and network agency. Here, it is emphasised that it is the interaction between network structure and network agency, rather than the independent effects of either, or both, which helps explain policy outcomes. This aspect of the dialectical model clearly distinguishes it from the Rhodes model and the Marsh-Rhodes approach, which privileged the network structure.

Although it is argued that neither network structure nor network actors have a privileged position in explaining the policy outcomes, the structural tendency still seems to exist in the dialectical model, at least at the initial phase. As such, it is often stated in different contexts that policy networks are structures, e.g. 'structures within which agents operate (Marsh, 1998b:194); 'dynamic political structures' (Marsh, 1998b:195); and, structures that both constrain and facilitate agents (Marsh & Smith, 2000; Toke & Marsh, 2003). Furthermore, policy networks, as structures, are assumed to: (i) define the roles the actors play; (ii) shape the issues which are discussed, and how they are dealt with; (iii) have a

distinct set of rules; and (iv) contain organizational imperatives, so that, at least, there is a major pressure to maintain the network (Marsh, 1998b:195; Marsh & Smith, 2000:5). These characteristics of the policy networks lead Marsh to see the relationships within the networks as structural (1998b:195). However, the difference with the predecessors of the dialectical model is that there are times when agency appears to be a more important force in explaining change in the network and policy outcomes, especially in the later stages. This suggests that, even if the origins of the dialectical model lie in an earlier structural model, the model itself is able to divert some of the attention to agency as well. In particular, in the dialectical model, there is a move towards seeing both network structure and resource dependencies as more fluid. It is assumed both that the agents discursively construct the structure and that the agents' behaviour is affected by this discursive construction. As such, the agents are ascribed a dynamic role, while the structure is seen as influenced by both the agents and the broader context. This inference is most evident in the following quotation: 'It is agents who choose policy options, bargain and conflict and break up networks (Marsh, 1998b:195; Marsh & Smith, 2000:7) [although all of these are also affected by the broader context].

The dialectical relationship between network and context

Another difference between the dialectical model and its predecessors is the clear attempt of the first to identify the role of the broader context (or, in other words, factors exogenous to the network) in policy explanation. As such, Marsh and Smith identify a *second* type of dialectical relationship; that is, between the broader context and the network structure and network agents. Acknowledging the dialectical nature of these relationships takes us beyond the more simplistic distinction in the earlier literature between the role that factors exogenous and endogenous to the networks play. Exogenous factors primarily form the 'network's political and socio-economic context' (Toke & Marsh, 2003:232). Other exogenous factors might include 'political authority', for example, ministers or prime ministers (1998b:196), and other policy networks (Marsh, 1998b:191 and 196; Marsh & Smith, 2000:8). In addition, Marsh and Smith (2000:8) also argue that sectoral networks exist (for a discussion of sectoral and sub-sectoral networks, see Richardson & Jordan, 1979; Rhodes & Marsh, 1992a; Marsh, 1998a), and provide a crucial aspect of the context within which sub-sectoral networks operate (see 2.3.2.2).

More specifically, the broader context and the network structure constitute the 'structured context'. It is this structured context in which the network actors are located and interact with each other. Thus, there is an evident interaction between the network agents and each of the two components of the structured context, that is the network structure and the broader context. However, the interaction between the network structure and the broader context is less emphasised. Marsh suggests a rather one-dimensional relationship between the two: 'Broader patterns of privilege as a key feature of the context within which networks operate have a direct effect on the network structure' (Marsh,

1998b:197). The influence which could possibly be exerted by the network structure on the broader context is not as clearly emphasised.

The dialectical relationship between network and policy outcomes

The dialectical model, unlike the Marsh-Rhodes approach (see Section 3.2) and its propositional version in 1998, does acknowledge both that the policy network affects the policy outcome and that outcomes affect networks. This brings us to the third dialectical relationship. In this relationship, policy outcomes are seen not merely as the product of a policy network, but also as affecting both the structure of, and the action within, the networks. In addition, the influence of the broader context occurs via the network structure and agency. In return, the model recognises the possible influences which can be exerted in turn, by the policy outcome on the network structure, network interaction and the broader structure.

4.3 The dialectical model of policy networks: empirical application

4.3.1 Introduction

As reflected in the epistemological discussion in Section 3.5, the dialectical model of policy networks is not a predictive model (Toke & Marsh, 2003), with clearly defined testable hypotheses about the relationship between certain types of policy networks and certain policy outcomes. Instead, it offers a framework based on three fundamental dialectical relationships, which will help us understand how these relationships come about. In this regard, the dialectical model does not offer a generalised explanation of policies produced in different contexts, or sectors, by different types of networks. This is clearly evident if we examine three treatments of the model in: (i) the book chapter (Marsh, 1998b), which proposed the initial version of the model in merely theoretical terms; (ii) the article (Marsh & Smith, 2000), which introduced the dialectical model as a novel way to utilise policy network analysis to explain policy outcomes, and used a case study of agricultural policy making in the UK since the 1930s to illustrate the putative validity of that model; and (iii) the article (Toke & Marsh, 2003), which assesses the utility of the model to explain the development of genetically modified (GM) crops policy in the UK.

The book chapter mentioned above is not directly relevant here for two reasons: First, it has already been discussed in earlier sections (see 3.4.1, 3.4.2 and 3.4.3), where the model was outlined. Second, the book chapter does not involve any case study. The two articles are relevant because they enable me to outline how the model has been used empirically.

I begin by looking at what these two case studies share in common in Section 4.3.2, before looking in Section 4.3.3 at how they differ from each other.

4.3.2 Analysing the empirical application of the dialectical model: convergences

The two empirical applications of the dialectical model converge on four aspects: (i) the way policy outcome and policy change is treated; (ii) networking stages are not clearly established; (iii) there is no uniform specification of the key terms; and (iv) there is no reference to the innate skill of the actors.

First, as pointed out earlier, one of the major theoretical critiques of the model is its limited treatment of policy outcomes and policy change, which seem to be dealt with only within the third dialectical relationship between the policy networks and policy outcome. In the empirical case studies, this problem has been partially overcome. In both cases, policy change was analysed through the lens of structure, agency and context and their dialectical relationships. For example, the agricultural policy-making case study identifies how the change in policy, from the 1930s policy of high agricultural production and high prices for the farmers, was reflected in the interaction between the network structure, network agency and the broader context. Likewise, in the GM crops case study, the interrelationships between the network structure, agency and the broader context facilitated the change in policy from an industrial policy, dominated by economic concerns, to an environmental policy, driven by biodiversity concerns.

Second, neither case study covers all the stages of networking. It is recognisable that the formation of the network is explicitly described in the agricultural policy-making case study. By this means, the interaction of network structure, agency and context is established. However, the following stages of networking are not clearly established. In the GM crops case study, a section is devoted to policy change and network change.

Third, as indicated above, neither of the articles visibly specify some of the key terms of the model, such as network structure or resources. For instance, neither set of authors has an apparent definition of network structure. To return to an example, already mentioned, in the GM crops case study, the dominant discourse underpinning the governmental policy appears as a major structural constraint. In effect, the dominant discourse appears here as an element of network structure, determining who can be a member of the network and what can be discussed as part of the policy agenda; consequently, it is used to explain 'actor and agenda exclusion'. Likewise, the view of the agricultural policy community, i.e. 'agricultural prices should rise annually and farming should be subsidised by the state', is seen as ideological structure, and thus seen as an element of the network structure.

The *fourth* similarity between the two case studies is that neither of them refers to the innate skill of the actors, although this is a key feature of the model, represented in each of the diagrams by a separate box.

4.3.3 Analysing the empirical application of the dialectical model: divergences

The two articles diverge from each other in a number of ways. Let us now look at the major highlights of each article:

4.3.3.1 The Marsh and Smith (2000) article on agricultural policy making in the UK since the 1930s⁴⁸

The theoretical exploration of the dialectical model in the first case study, which focused on agricultural policy making in the UK since the 1930s (Marsh & Smith, 2000), is extensive since this was its first airing. There are also clear links between the theoretical model and how it is empirically applied.

This case study involves four substantive sections:

- (i) the formation of the network and the relationship between agents, structure and context – this section establishes the longitudinal process of network formation with a look at the relationship between network (agency and structure) and context. However, subsequent stages of networking are not mentioned.
- (ii) policy outcomes is elaborated as a product of the interaction between agents and structure – this section sets the first level of relationship, i.e. between network and policy outcome;
- (iii) change in the network which involves an interaction between context and network – this section sets the second level of relationship, i.e. between network and context; however, with special attention to the network change.
- (iv) the effects of outcomes on the network – here, the feedback relationship between policy outcomes and network – are examined.

Additionally, the extent of the policy change is examined as a parallel thread throughout the article.

The empirical application of the model in this article begins with a brief introduction to the agricultural policy network during the period 1945-1980, which is characterised as a closed policy community, with a membership restricted to the National Farmers Union (NFU) and the Ministry of Agriculture, Forestry and Fisheries (MAFF). This policy community defended the interests of farmers, conducted the Annual Review of the Agriculture, and accepted and promoted the view, seen as an ideological structure, that: 'agricultural prices should rise annually and farming should be subsidised by the state' (ibid.:12). Overall, the network structure is seen as shaping policy outcomes, with the persistent institutional and ideological structures of the policy community resulting in policy continuity. Here the role of the dominant idea is essential, which is seen as a part of the network structure.

⁴⁸ Based on Marsh, D., & Smith, M. (2000). Understanding Policy Networks: Towards a Dialectical Approach. *Political Studies*, 48(1), 4-21.

The article by Marsh and Smith (2000) on agricultural policy making in the UK indicates that there is a close link between the theoretical and the empirical applications of the model. As such, it starts with an extensive theoretical exploration, and attempts to apply these theoretical concepts in the empirical analysis. In this regard, this case study offers a relatively sophisticated application of the model. It also clearly indicates how complex the dialectical relationships are when they are empirically examined in a case study.

Most remarkable is that, while the model examines the dialectical relationship between two variables each time, in this case study three variables are analysed in each layer. This is probably due to the complexity of real life. Although the model views the first dialectical relationship as that between network structure and agency, in the empirical case study it is clear that this interaction occurs within a context, and we need to look at how all three: structure, agency and context, interact.

Prior to that, the way in which the interaction between structure and agency produced certain policy outcomes was established. This section of the Marsh and Smith article clearly deploys the terminology (e.g. strategic selectivity of the networks, strategic learning of the actors, discursive construction of the ideas, etc.) used in the theoretical model which describes the components involved in network interaction. Here, there is a clear match between the theoretical and empirical application of the model. While the analysis of the effects of networks on outcomes has produced fairly sophisticated results, the reciprocal effect, i.e. the effect of outcomes on the network, is poorly treated.

It can be argued that the network agents lie at the centre of these complex dialectical relationships. While the broader context imposed various exogenous factors on the policy outcomes, evidently it was the network agents who interpreted these factors in their strategic calculations. As a result, structural constraints, whether originating from the broader context or via the network structure, were internalised by the network actors, be it via their 'discursive construction of ideas' (high subsidies are needed in order to ensure high production), strategic learning (farmers demanded assurance for the continuation of governmental support in order to prevent the government abandoning its wartime subsidies after the war) or strategic calculations.

One of the remarkable aspects of this case study is that it offers scope for understanding the dynamic role of network agency, while the predecessors of the dialectical model (i.e. the Rhodes model and the Marsh-Rhodes approach) were once criticised as being structurally-biased.

There are three points about this article:

- It seems that the interaction of structure and agency embedded in a broader context was most evident from the 1930s until Britain's EU

- membership in 1973. This period was earmarked with policy continuity and network stability. As such, the former pricing policy remained valid, as long as the policy community remained. The Treasury, which was initially sceptical, eventually joined the policy community because it was convinced of 'the need for a high level of farming', a discursively constructed idea by the policy community.
- From 1973 onwards, exogenous factors changed, i.e. the UK joined the EU. This had an impact on the composition of the network and the dominant policy.
 - In understanding the network change, there seems an evident emphasis on the role of agency (and its strategic action).

The final section is a confusing one, since the examples illustrating the assertion that 'outcomes affect networks', which, subsequently, affect the next set of outcomes', are complicated ones. They are described in such a way that it is difficult to detect the direction of the influence, or more accurately the temporal sequence involved. This clearly illustrates that the dialectical relationships involved in the 'real' world are far more complex than the analytical distinction made by the researchers in order to make sense of that reality. What is needed is a much clearer specification of the lines between outcomes and networks.

4.3.3.2 The Toke and Marsh (2003) article on the genetically modified food and crops issue in the UK⁴⁹

The article by Toke and Marsh (2003) has a more limited theoretical discussion, focusing primarily on assessing the utility of the model to explain UK policy on genetically modified (GM) crops. This is an interesting case for the policy analysts for three reasons: (i) the genetically modified food and crops issue offers an example of a conflict between powerful economic interests and the environmental lobby; (ii) public opinion and consumer power played a significant role in this issue; (iii) the role of scientific experts has been increasingly questioned.

In the theoretical part of the article, Toke and Marsh begin by briefly summarising the basic tenets of the dialectical model. There are some differences between the treatment of the model in their article and that in the Marsh and Smith article.

First, in their explanation of the dialectical relationships, some of the terms utilised by Marsh and Smith (2000), such as strategic selectivity, strategic learning, institutionalisation of beliefs, etc., are not mentioned. They use a much more limited terminology when compared with Marsh and Smith, which may increase parsimony but reduces explanation.

⁴⁹ Toke, D., & Marsh, D. (2003). Policy Networks and the GM Crops Issue: Assessing the Utility of a Dialectical Model of Policy Networks. *Public Administration*, 81(2), 229-251.

Second, after discussing each of the dialectical relationships, they generate a series of questions and attempt to answer them in their empirical work. Developing certain questions from a model may enable us to identify key issues on which to focus in a case study of particular policy outcomes. Of course, whether this does so, or not, is largely an empirical question. It seems that the authors have a structural tendency because they provide a summary of the changes in the network structure, changes in the policy outcomes and the linkages between the two in order to help link the model to the case study (Toke & Marsh, 2003:234).

Third, unlike the Marsh and Smith article, which touched upon the dialectical relationships between three variables at once, Toke and Marsh carried on with the analysis by focusing on the dialectical relationships between: (i) structure and agency; (ii) context and network change; and (iii) networks and outcomes.

In this article, Toke and Marsh develop some useful critiques of the Marsh and Smith model. They begin with acknowledging that the added value of the dialectical model is its ability to explain network transformation (as well as network stability). Evidently, the policy network around the GM crops transformed in October 1998 from a GM industry policy community (which was pro biotechnology) to a GM environmental protection policy network (which was pro-environmental protection). In this connection, Toke and Marsh strongly, and effectively, contest both Dowding's argument that traditional policy network analysis does not explain network transformation and Raab's claim that the dialectical model adds nothing to the policy network analysis (ibid.:249).

Toke and Marsh also identify three weaknesses of the model (ibid.:250): *First*, they highlight the need to recognise that actors in networks can be either individuals or groups, and there is evidence in the GM crops case study that the actors are mostly groups. *Second*, they argue that the Marsh and Smith model may exaggerate the role of insider groups, and that outsider influence can also be significant. They suggest that, in their case study, insiders may have influenced policy details through the policy network, while radicals had more influence by agenda setting. *Finally*, they criticise the model's exclusive focus on policy outcomes emanating from the policy networks. This focus in the dialectical model, and in policy networks theory generally, ignores instances in which outsider pressure can be associated with network change and changes in policy outcomes. This is most evident in the key policy outcome, i.e. the removal of GM products from the supermarkets. In fact, this outcome did not result from governmental policy. It was rather a decision by the supermarkets which were under pressure from anti-GM campaigners and consumers.

4.4 Limitations of the dialectical model

The dialectical model is more sophisticated and extensive than its predecessors, but its empirical application is not without problems, and my aim here is critically to assess the model and examine some of its limitations, as a first step towards developing a revised version (see Chapter 5).

In my view, the dialectical model has four major limitations. (i) the networking stages are not prescribed explicitly; (ii) the treatment of policy outcomes and change in the network involve some difficulties; (iii) some key terms in the model, i.e. structure and agency, are under-specified; and (iv) the diagrammatic representations of the model are inconsistent. Let us now have a look at each of these limitations:

4.4.1 Networking stages not prescribed

The dialectical model of the policy networks does not refer specifically to the need for establishing the networking stages, nor does it prescribe what these stages could entail. However, it is important to note that, although not explicitly named as such, the first empirical application of the model still involves an attempt to establish the network formation stage explicitly, although the subsequent stages of networking are not touched upon. By this means, the relationship between the agents, structures and context are put in place embedded in the network formation stage. The second case, on the other hand, has a less explicit attempt to explain network formation. Further, it does not involve any direct reference to the other networking stages. However, in its attempt to establish the changes in the policy network and in policy outcomes, it naturally highlights the transformation of the network, although this is not entrenched in the networking stages.

4.4.2 Treatment of policy outcome, policy change, and network change

As we saw in Chapter 2, the *raison d'être* of the Interest Intermediation school, within which the dialectical model is located, is to explain why and how policy networks can help us explain policy outcomes. As such, the policy outcome is an important variable for those utilising a dialectical model, yet it has received little attention, perhaps because it appears explicitly only in the third dialectical relationship. However, this can partially be explained by the fact that any theoretical focus inevitably simplifies the complex reality.

In the dialectical model, much more attention has been paid to the network change than to policy change. For instance, the dialectical relationship between the network structure and agency is used to help explain network change, while its effects on the policy outcome are seen as subsidiary. In a similar fashion, the

interaction between the policy network and the broader context facilitates an explanation of the subsequent changes in the network structure, agency and the broader context, while the changes in the policy outcomes are given much less attention. Policy outcomes appear in the third dialectical relationship in the most explicit way. Perhaps, more importantly, policy outcome is not specified. Furthermore, the links between policy change and network change are not clearly established. A number of questions are relevant here: What qualifies as policy outcome? How can the policy outcomes be associated with the network types? Does policy continuity or change correspond to particular stages of networking?

4.4.3 Network structure and agency underspecified

The third limitation of the model is related to the under-specification of key terms, such as network structure and network agency. Indeed, there have been various attempts to sort out the connotations of network structure and agency in the dialectical model; however, uniform criteria are needed in order to operationalise these terms empirically.

4.4.3.1 On the network structure

There are attempts to establish to what network structure might refer. Marsh, for instance, links the structure of a policy network to the structure of the relations between the actors. However, he offers no further explanation as to what the 'structure of the relations' embraces (1998a:13).

The most explicit attempt to identify the characteristics of network structure was made by Marsh and Smith (2000:6). According to them, these characteristics were as follows: (i) an institutionalization of beliefs, values, cultures, and particular forms of behaviour; (ii) a common culture, or, in other words, a shared world view; (iii) the shape of the network; and (iv) the rules of the game.

It is not clear if this list is a generic or a case-specific one, since it was then applied empirically only to the agricultural policy-making case study. However, the same set of elements were not utilised later in the GM crops case study by Toke and Marsh (2003), with the exception of the shape of the network element.

Indeed, the shape of the network as suggested in the above list of Marsh and Smith is the most frequently – yet often implicitly – referenced element of the network structure in earlier works. For instance, Marsh implied that the shape of the network equates with the network structure (Marsh, 1998a:12) because it involves 'membership of the network' and 'the balance of resources within it (e.g. a weakened bargaining position within the network)' (Marsh, 1998b:197).

When scrutinised carefully, it appears that the shape of the network has remained the key aspect of network structure in almost all the empirical analyses of policy networks in Marsh and Rhodes (eds), (1992) and Marsh (ed.), (1998). This tradition was also followed in both case studies (Marsh & Smith, 2000; Toke

& Marsh, 2003), where the dialectical model was tested. For example, the latter case study identifies a policy community whose structure excludes certain groups and certain policy issues. This statement makes an indirect reference to the shape of the network, where network structure is characterised by the exclusion of certain groups and policy issues.

As another element of the network structure, Toke and Marsh (2003) linked the network structure to the dominant discourse and resources in their study of GM crops in the UK. The first of these is particularly interesting. As such, the authors identify the government's 'dominant discourse' as a key 'structural constraint' (emphasis added). In my view it is debatable whether the dominant discourse of the government is a component of the network structure. I would argue that it would be better considered to be a part of the broader context (see also Section 4.3.2 on the empirical application of the model).

4.4.3.2 On the network agency

Only after having established that networks are structures does agency appear a little more straightforward. Agents are mainly organisations, but they can also be individuals (e.g. a minister or a prime minister); and they are defined as 'strategically calculating subjects'. However, agency becomes more complex when we attempt to identify the nature of network interaction. Network interaction is defined as: 'the pattern of resource exchange between agents within networks' (Marsh, 1998b:194). Agency is without doubt the active component of network interaction, but what makes agents calculate strategically? What are the properties of actors which enable them to interact? There is no clear attempt to identify the properties of actors in the 1998 version of the model, although the three points raised by Marsh and Smith (2000:6) seem useful. The authors link these points to the actions of the actors, whom they see as strategically-calculating subjects. These points are:

- (i) Preferences and interests of members of a network;
- (ii) Discursive construction of the constraints and opportunities as imposed on the agent's action by the network structure;
- (iii) Skills of the network members which affect their capacity to use opportunities and negotiate constraints.

The preferences and interests of the members of a policy network, as Marsh and Smith elucidate: 'may not be defined merely, or perhaps even mainly, in terms of that membership' (ibid.:6). Their preferences and interests may be constrained by other factors such as membership of the other networks. By that means, network actors might even have contradictory interests due to their varied positions.

Later in the same article, Marsh and Smith (ibid.:8) refer to the 'resources, interests and relationships' of the actors within networks that exogenous factors can affect. While the 'interests' of the actors have already been mentioned, resources and relationships are not further specified. As could be observed, the

properties of the actors were not defined here per se, but in another section where it was relevant for the broader context.

According to the dialectical model (see Figure 3.1), actors have skills, which are partly innate and partly learnt. Here, the actor's skill interacts with the actor's resources and network interaction, but it is not clear in the empirical applications of the model, whether the actors' skill plays such an essential role in explaining policy. This is a point made in Raab's critique as well (see Section 3.6).

4.4.3.3 On resource dependency: a property of network structure or agency?

Like the concepts of structure and agency, resources and resource dependencies are also not clearly specified, although there is reference to them throughout the articles. Certainly, 'resource dependency' seems to play a key connecting role between network structure and agency.

As such, resources are sometimes treated as one of the properties of the actor (Marsh & Smith, 2000:8). At the same time, Marsh (1998b:193) argues that the resources of the actors contribute to network interaction: 'the interactions which shape outcomes are a product of the resources which the actors control [as well as the skills they use]'. Finally, resource dependencies are mentioned as being: 'created as a result of the structural and interpersonal relationships between the actors' (Marsh, 1998b:195). All these statements highlight the important role of resources in relation to network agency.

In addition, resource dependency is often linked to the network structure, so Marsh and Smith (2000:7) refer to: 'the structure of the networks and the resource dependencies they entail' (see also Toke & Marsh, 2003:232). However, the aim here is not to emphasise the structural nature of resource dependencies, but, rather, to emphasise that they are not fixed, and actors can reinterpret them. Nevertheless, once dependency based on the resources is constituted, one can claim that it starts to gain an institutionalised character. The more the resource dependency becomes routine, the more it becomes one of the structural aspects of the network. Despite this, resource dependency, as we have seen, are not mentioned by Marsh and Smith (2000:5-6) as one of the elements of the network structure (also, see above). However, they acknowledge that 'network structures, and the resource dependencies they entail, are not fixed' (ibid.:7).

4.4.4 Diagrammatic schemes

Finally, the fourth major limitation of the dialectical model lies in the inconsistency in the way in which it is presented diagrammatically. The dialectical model is illustrated by three different diagrams (Marsh, 1998b; Marsh & Smith, 2000; Toke & Marsh, 2003). Although these diagrams are similar, there are important differences.

Below is the dialectical model, as outlined in Marsh and Smith (2000). This is the first detailed presentation of the model. The preceding diagram of the dialectical model in the Marsh chapter (1998b) and the version presented in the Toke and Marsh (2003) article is mentioned throughout this section only where relevant.

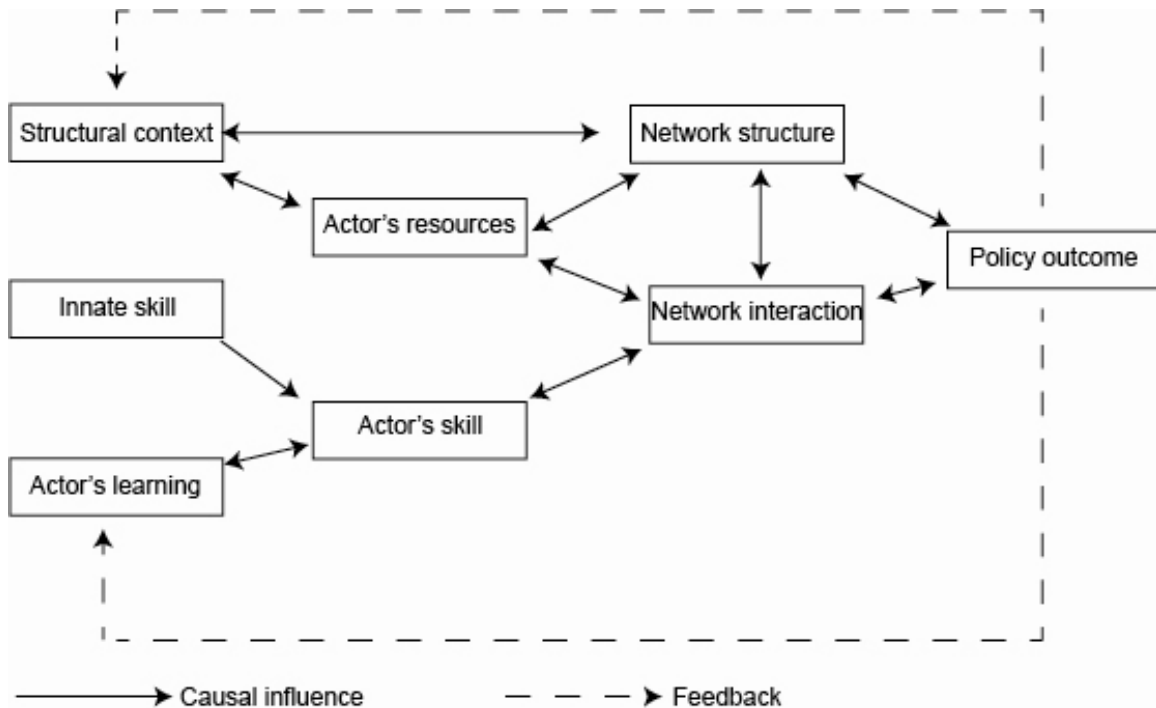


Figure 4.1: The dialectical approach to policy networks
 Source: Marsh and Smith (2000).

There are two important points to discuss here: (i) the nature of the relationships specified in the diagrams; and (ii) the direction of the arrows.

In relation to the *nature of the relationships* between the variables, Marsh and Smith (2000) distinguish between causal relationships and feedback relationships, as is clear in Figure 4.1. As such, the relationships between the policy outcome and the network structure, and between policy outcome and network interaction, are viewed as causal relationships, whereas the relationship between the policy outcome and the structural context, and between the policy outcome and the actor's learning are termed as feedback relationships. However, in the Toke and Marsh (2003) article the feedback relationship in Figure 4.1. above is replaced by a causal arrow, but other feedback relationships are introduced, between: the actor's innate skill and the actor's learning; the actor's resources and the actor's skill; and network structure and network interaction. These are not in the Marsh and Smith article.

The second issue is related to the *direction of the arrows*. Different versions of the scheme do not suggest uniformity regarding which relations are uni-directional (e.g. between innate skill and the actor's skill, as in Marsh, 1998b, and Marsh & Smith, 2000) What was presented as feedback relationship in Marsh (1998b) and Marsh and Smith (2000) was indicated with straightforward lines in Toke and Marsh (2003) but with no arrows. Overall, the dialectical model needs to establish a uniform scheme with clearly defined relationships between its variables and the direction of arrows.

4.5 Summary of the critical review

The virtue of the dialectical model of policy networks is that it provides a framework with which we may better understand how policy networks affect policy outcomes. The model as such involves three sets of dialectical relationships, between structure and agency, network and context and network and policy outcome. These relationships take place in a continuous and iterative process.

However, the dialectical model is not free from some difficulties. The identification of these issues informs the next chapter, in which I propose a revised version of the model, in order to achieve a better operationalisation.

First, although the model does not offer a clear view of the stages of networking, the empirical applications briefly touch upon the networking process. As such, there are no clearly set stages of networking identified, except the network formation stage. Then, in the course of the case study, network change is elucidated; and only by that means do we get a sense of the other stages of networking, although these stages are not explicitly explained by the model.

Second, policy outcome and policy change are not specified, and the model pays more attention to network change than to policy change. As such, the discussion on network structure and agency enables a view on the network change. However, in the empirical application, policy change is touched upon within the range of policy stability and policy change [see the Marsh & Smith (2000) article on agricultural policy making].

Third, unfortunately, Marsh and Smith offer no guidelines indicating how we should identify network structure agency and the other variables in theoretical terms. However, Marsh and Smith, and Toke and Marsh elaborated on structure and agency in their case studies in different ways.

Fourth, the diagram of the dialectical model involves some inconsistencies in different empirical applications. Some of the terms used in the diagram, such as innate skill, actor's skills, actor's learning, are not always effectively utilised in the model.

Looking back once again over the two empirical applications, there is a clear emphasis on the network agency. The broader context or the network structure constrains/facilitates the network actors. In return, actors interpret the broader context and network structure. In other words, they translate these constraints/facilitation into strategic action. Policy outcomes are produced in a selective context. Even if we talk about a mutual causal relationship between the network and the broader context, the effects of this relationship on the policy outcome is often filtered through the lens of actors. As such, by means of the actors' interpretation, strategic action takes place, and, as a result, not only the network structure is influenced but also policy outcomes are produced. These are also the effects on the broader context and network structure, but obviously, what is often experienced is that network agency plays an intermediary role in interpreting the feedback. This is not a rule of thumb, but it was frequently observed that agency had a mediating role between the network structure, the broader context and policy outcomes. The model, originating from the Marsh-Rhodes approach, which was criticised as being structurally biased, argued that an equal role should be given to structure and agency. However, it seems to provide scope to reflect on the role of actors in the agency and network interaction. As such, Kisby (2007) also mentioned that, ironically, the Marsh and Smith model involves strategic calculation by the actors, while they criticise Dowding's rational choice approach. I refer to the strategic calculations of the actors in my revised model.

Chapter 5

Revising and operationalising the dialectical model of policy networks

5.1 Introduction

The theoretical and empirical accounts of the dialectical model of policy networks have now been examined. The model offers a conceptual framework to analyse how policy networks play a role in the formation of certain policy outcomes. It does so by examining three dialectical relationships: those between (i) network structure and agency, (ii) network and context; and (iii) network and policy outcome. As suggested by the range of these relationships, the model also highlights the need for an explanation of network change and policy change.

In this chapter, I aim to develop an improved version of the dialectical model of policy networks, which is informed by Chapter 4, where I critically reviewed the strengths and weaknesses of the model in the light of the lessons derived from two empirical applications. The major limitations of the model were discussed in Chapter 4. To summarise, these limitations are as follows: (i) the networking stages are not clearly established; (ii) the link between policy outcomes and policy networks is not clearly elucidated; (iii) the key terms of the model, particularly 'network structure' and 'agency', are underspecified; and (iv) the diagrammatic representation of the model is inconsistent. The revised dialectical model of policy networks is informed by these critiques.

The revised dialectical model acknowledges that the original dialectical model provides a framework with four major variables in understanding the interdependence between policy networks and policy outcomes. These variables are: network structure; network agency; the broader context; and policy outcome. Indeed, the revised dialectical model elaborates on these variables, particularly, on network agency and policy outcome, and identifies the same key variables, however, with one difference, i.e. network agency is divided into its three components: actors' interests; actors' resources; and actors' strategic interaction. Accordingly, a diagrammatic representation of the interrelationships between these variables is presented. There are two important points here:

- (i) The revised dialectical model argues that the relationships between these variables are iterative, and, thus the model does not presume any

- dependent or independent variables. Nor the model presumes a fixed sequence of variables or that a particular variable exists dominantly. However, it would be interesting to observe in practice if any variable stands out, and what kind of influence it has, particularly, on the policy outcome. This is certainly an empirical question.
- (ii) Networking stages are longitudinally examined in the revised dialectical model in order to highlight network change and its connections with policy change. Networking stages do not appear in the diagrammatic scheme of the revised model where the key variables are illustrated as being an inherent part of the model. In this regard, networking stages constitute a process variable, in which the interaction between the key variables of the model, i.e. network agency, network structure, the broader context, and policy outcome, takes place.

This chapter is composed of five sections. First, networking stages are outlined (5.2) with an eventual goal to link them to network shape. Then, I specify public policy; and follow Daugbjerg's proposition as a way to link network types to policy types (5.3). Subsequently, I turn to the network (5.4), where I attempt to specify the meaning of network structure and network agency. It is intended that these specifications will better inform the empirical application of the model by highlighting the dialectical relationships, not only between network agency and network structure but also between network agency, network structure, and context, and between network agency, network structure and policy outcome. I, then, present the new diagrammatic representation of the revised model (5.5). Finally, I draw the main outlines of how to operationalise the revised dialectical model (5.6). The operationalisation involves four steps, which are in line with my research questions (see Chapter 1): (i) linking the networking stages and the network shape⁵⁰; (ii) linking policy outcome and policy network; (iii) analysing the dialectical relationships underlying each policy outcome; and (iv) analysing the dialectical relationships encompassing all policy outcomes. The operational components of the key variables of the model are elucidated in Table 5.1. The characterising events of the networking stages are elaborated in Table 5.2.

5.2 The stages of networking and their linkage with network shape

The practice of public policy making often involves complex and lengthy processes. The policy networks, which are involved in these processes, are, in contrast to the common assumption, 'not always already pre-constituted' (Hay, 1998:45). An emerging policy issue can mobilise the formation of a policy network. Once a policy network is formed, it does not necessarily maintain a static structure. Networks do evolve, develop, change, and eventually, terminate; thus, they represent *dynamic* structures. This dynamism is related to *networking*

⁵⁰ Network shape is treated as being equivalent to network structure (see Section 5.4.2).

[both emphases added]. Networks, in this sense, are rightly conceived as 'strategic alliances, recursively reconstituted through the process [...] of networking' (Hay and Richards, 2000:15).

As Hay (1998) emphasises, this is a neglected issue in network analysis, and little or no consideration is given to: (i) the pre-network stage; (ii) network formation as a *process* (emphasis in original); (iii) networking as *practice* (emphasis in original); (iv) network transformation; (v) network failure; and/or (vi) network termination. This list is not exhaustive. In reality, I would argue that networking as *practice* is not a separate stage, but an inherent part of the networking process, from the beginning to the end, and the network transformation stage could take place in the form of network expansion or network reconstitution. In the *network formation* stage, network traits, characteristics and properties are often established. Hay talks about a number of strategic and contextual factors for the network formation to occur (1998:45):

- (i) the recognition of the potential for mutual advantage through collective (as opposed to individual) action;
- (ii) the recognition of the potential for enhancing the strategic capacities of participant organisations through the pooling of strategic resources; and,
- (iii) the recognition and/or establishment of the conditions of network feasibility⁵¹.

Within dynamic networks, it is likely that the *network formation* stage is followed by *network expansion*, in which the network core may possibly enlarge with new actors and new policy themes. Then, *network recruitment*, as Hay calls, may take place, in which the network is reconstituted and its strategic resources are enhanced in response to changing circumstances. *Network failure* and/or *network termination* (may) take place at the other end of network evolution. Here, Hay (1998:51) states: 'As distinct from partnership termination, network termination tends to be a long-drawn-out process involving the whittling away of strategic partners and the gradual decline in influence of the network'. These processes, especially network termination, can spread over a long period. However, I would argue that, before network termination, there may come other stages such as *network stabilisation* and *network stagnation*. *Network stabilisation* is evident when matters reach a settled-down position, and when it becomes common practice to continue with the established patterns of interaction within the network. *Network stagnation* is related to the slowing down of network interaction, or when the interest in the policy issue comes to a halt. This is often temporary though it can extend to longer periods of time. Then, a follow-up stage after network stagnation could be *network revitalisation* or *network termination*. This terminology provides a broad list. A policy network

⁵¹ Feasibility can be dependent upon: (i) a degree of geographical or communicative proximity between potential new partners; (ii) a degree of shared cultural norms and values; and (iii) the availability and/or willingness of organisations to devote resources of time, money and personnel, and to devolve sovereignty to networking (Hay, 1998:47).

active around a policy issue in practice might have some of these stages. Therefore, later, in the empirical application, these terms will be used only where relevant (see Table 5.2 for the characterising events of networking stages).

Understanding the networking stages also sheds light on understanding the change in the network shape, by answering the following questions:

How do the networking stages change over time?

How does the network shape change over the course of the networking stages?

These questions aim to examine the interrelationship suggested in the Operationalisation Step 1 (see Figure 5.2).

5.3 Linking policy outcomes and policy networks

The need to understand the networking stages; and to link the change in the networking stages to the change in the network shape were established in Section 5.2. This helps us to understand network change. This exploration provides, at the same time, a context for putting a spotlight on the change in the policy outcomes. The aim of this section is to understand policy outcomes along with network change.

The core of the British Interest Intermediation school and the dialectical model of policy networks lies in the assumption that policy networks affect policy outcomes. If the policy outcome is central in the dialectical model of policy networks, we need to have a better understanding of the underlying interrelationships. Going further, to make it more operational, we need to link the policy outcomes and the policy networks. This linkage can be examined between policy outcomes and network shape; and between policy outcomes and networking stages.

Linking policy outcomes and network shape

In the light of the need to link policy networks and policy outcomes, Daugbjerg (1998) has already attempted to link them in his comparative work on the nitrate policies of Denmark and Sweden in 1970-1995. Furthermore, he called for other empirical studies to explore this linkage further.

Policy outcome in this dissertation is seen as a generic term, merely referring to the term 'public policy' during policy formulation and policy implementation processes. The two components of public policy, as described by Daugbjerg (1998), will be used: *policy instruments and policy objectives* (in addition, other types of policy outcomes are mentioned later in this section).

A public policy can consist of a single *policy instrument* or a set of instruments employed to achieve one or several objectives. Policy makers often prefer to talk

through the policy instruments and the choice of policy instruments. As such, a policy instrument is defined as a political means of bringing about certain behaviour among individual members of the target group through learning, compulsion, or the use of economic incentives. Thus, the choice of policy instruments is based on three types of inducement: economic, legal, or voluntary. This inducement leads to a four-fold classification of the policy instruments (Daugbjerg, 1998:279-280):

- (i) positive economic instruments, such as subsidies or tax reductions;
- (ii) negative economic instruments, such as taxes, charges or fees;
- (iii) regulatory instruments imposing prohibitions or prescriptions; and,
- (iv) informative instruments.

Policy objectives are the second component of public policies and they can be of two types regarding the way they are formulated: (i) broad and imprecise policy objectives; and, (ii) specific and precise policy objectives. It may also occur that policy objectives are sometimes not even explicitly stated (Daugbjerg, 1998:279).

Daugbjerg formulates the proposition (1998:275):

The existence of tight and closed policy communities in sectors subject to environmental regulation is associated with the introduction of low cost environmental policies. In contrast, open and loose issue networks are associated with high cost environmental policies.

What is meant here by low- and high-cost environmental policies? Basically, the first refers to less pressure imposed on polluters; and the latter refers to higher pressure. These policies make use of different instruments and objectives, as described below by Daugbjerg. As such, low cost environmental policies favour the polluters and display the following features:

- Many informative instruments are used: These instruments do not force costs on polluters; they are free to decide whether or not to follow advice.
- Many positive economic instruments are used: These instruments are usually used to create incentives for environmentally-friendly behaviour. Usually, no negative economic instruments are used. If, for example, green taxes are employed, they are small and often reimbursed in various ways.
- Regulatory instruments are adjusted to individual conditions. By this adjustment, it is ensured that polluters achieve a certain control over the implementation process and over future policy revisions. In addition, regulatory instruments are, in economic terms, likely to be less costly than negative economic instruments.
- Objectives are, if at all stated, formulated in broad and imprecise terms (1998:283-4).

High-cost environmental policies display the following characteristics:

- They apply negative economic instruments and universal regulatory instruments, but few informative and positive economic instruments.
- They have specific and precise objectives (1998:284).

Such policies do not favour the interests of polluters to the same extent as low-cost policies because they put the economic costs onto polluters. Furthermore, in high-cost policies, polluters have, due to the nature of the instruments, difficulties gaining control over the implementation process and over future policy revisions.

Apart from the types of policy outcomes inherent in Daugbjerg's proposition, i.e. policy objectives and policy instruments, we can also talk about other policy outcomes which may come about over the course of policy-objective realisation and the implementation of policy instruments: for example, intermediate or interim policy decisions, incremental modifications in an existing policy objective or in the way an instrument is used, and sometimes non-decision or no implementation. These types of policy outcomes are included in the operationalisation of the revised model (see table 5.1).

In this dissertation, I examine the linkages between policy outcomes and policy networks, by raising the following question:

How are the policy outcomes associated with the network shape?

This will lead to an analysis of the first interrelationship suggested in the Operationalisation Step 2 (see Figure 5.2).

Linking policy outcomes and networking stages

In addition, policy outcomes can be linked to policy networks by posing another question:

How are the policy outcomes associated with the networking stages?

This question aims to understand the second interrelationship suggested in the operationalisation Step 2 (see Figure 5.2).

5.4 The meaning of network structure and network agency, and their dialectical relationship

The relationship between structure and agency is one of the recurrent issues of social science. McAnulla (2002:271) describes the basic tenets of the structure and agency debate as follows:

Fundamentally, the [structure-agency] debate concerns the issue of to what extent we as actors have the ability to shape our destiny as against the extent to

which our lives are structured in ways out of our control; the degree to which our fate is determined by external forces. Agency refers to individual or group abilities (intentional or otherwise) to affect their environment. Structure usually refers to context; to the material conditions which define the range of actions available to actors.

While 'agency' refers to the network actors, 'structure' is considered to have a wider coverage than the network structure. As such, it involves: (i) the broader context in which the network actors are located; and (ii) the network structure, partially made by the network actors, which in turn constrain and facilitate the actors. However, in this dissertation, structure refers to that of the network; and the contextual factors will be dealt with within the broader context. Both network actors and structure are embedded in the broader context.

5.4.1 On network agency

Agents are basically the actors in the network; the 'strategic calculating subjects' (Marsh & Smith, 2000). There are scholars like Bressers et al. (1994:6) and McPherson and Raab (1988, cited in Marsh & Smith, 2000:5), who treat individuals, rather than organisations, as the basic actors; as well as others like Marsh and Smith (2000), who see the organisations as the actors in a network. In this dissertation, agency is primarily seen as being the organisations; however, the potential role that some personally influential actors, such as a Minister, an Alderman, or a societal opinion leader, can play is also recognised.

In an attempt to specify *agency* and acknowledge its dynamic role, I would argue that there are three components of agency. These are actors' interests, resources, and strategic interaction. In the original dialectical model, 'innate skill' and the 'actor's skill' were mentioned (Marsh and Smith, 2000). Since the earlier empirical application of the model did not highlight any significant role of 'innate skill' and the 'actor's skill', the revised model puts the emphasis rather on the three aforementioned components of agency. The 'actor's learning' in the original dialectical model is treated in the revised model as being an inherent part of strategic interaction. In this respect, strategic learning is seen as providing feedback for the eventual strategic action(s) of the actor.

Interests

Actors can have interests in certain public policy issues; these can be economic, societal, professional, and scientific interests. Interest can also vary as individual or organisational interests. Thus, an individual or an organisation, as an actor, might need to combine more than one interest; and these interests can sometimes be contradictory. For example, some governmental actors, such as municipal and provincial governments need to balance such conflicting interests: these interests could be ensuring the economic profitability of the city or region, as well as protecting the 'common good' by ensuring ecological, environmental, and public health-related quality (societal interest). Interests play a driving force

for the strategic action of a network actor and the strategic interaction between the actors.

Resources

In addition to interests, actors may possess resources (resources also constitute a dimension of network shape, see the Marsh-Rhodes approach in Table 2.2 in 2.3.2.3). As already elucidated in Chapters 2 and 3, resources can be of five types: authority/legal resources; money/financial resources; political; informational; and organisational resources' (Rhodes, 1986:17). These resources may be extensive, including public participatory rights (as a part of the legal resources); expertise (as a sort of informational resource); and membership (as an organisational resource). The variation in the actors' resources creates resource dependency between them. Resource dependency is a crucial point, in my view, which triggers actors' strategic interaction (while at the same time, it forms the backbone of the network structure).

Strategic interaction

Actors, having their own interests, backed up by their own resources and being connected to each other with resource dependencies, may get involved in some activities or conduct in order to exert influence on one another. We may call these activities or conduct as strategic action. When there is an actor, reacting to the strategic action of another actor, then, we can talk about strategic interaction. Strategic interaction is the dynamic component of network agency, constituted by strategic actions and reactions of two or more actors. Let us now have a look at what strategic action is about:

As Hay (1995:190) describes in his strategic-relational approach to networking, strategic action is the 'fusion of *strategy* and *intention* informed by knowledge of structured context' (emphasis in original). According to Hay, actors are '*intentional* agents'. The intentional action of the actors cannot be considered free from, what he calls, the 'structured social context'. Actors have 'knowledge' of this structured social context, which defines 'a setting for their action'. *Strategy* comes to the fore when *intention* or *motivation* is orientated to a specific task. Strategy involves the selection of objectives (policy objectives) and the search for the most appropriate means (policy instruments) to achieve those objectives, within a particular context, at a particular moment in time. Agency is thus the product of *strategy* and *intention* (emphasis in original) (1995:205).

What actions could be called 'strategic action' other than the selection of objectives and the search for the most appropriate policy instruments to reach these objectives? As is evident in the literature (Hay, 1995 and 1998; Hay & Richards, 2000; Marsh & Smith, 2000), there are other terms which feed into the term 'strategic action' such as bargaining, strategic calculation, strategic learning (actors' self-reflection on past successes or mistakes), giving concessions, etc. The mutual/reciprocal conduct of two or more (or a series of) strategic actions constitutes the strategic interaction.

5.4.2 On the network structure: shape of the network

Reflecting back on the earlier policy networks literature, the shape of the network, as defined by Marsh and Rhodes (1992) still offers a meaningful categorisation of policy networks, ranging from policy communities to issue networks (see Table 2.2 in 2.3.2.3). This categorisation provides insights about the network structure, which has sometimes been treated as being equivalent to network shape (see 4.4.3.1). In the revised dialectical model, I use the term *network shape* when treating network structure; and follow the four dimensions of the network shape: membership, integration, resources and power, as suggested by the Marsh-Rhodes approach. The case studies in the Marsh-Rhodes edited collection (1992) indicate that membership and integration play a more prominent role in determining the network shape rather than resources and power. *Membership*, as such, is assessed in terms of the number of the participants and types of interest, whereas *integration* is related to frequency of interaction, and continuity and consensus in the network. In my revised model, all four dimensions are included, while membership and integration are paid extra attention.

The major difference between policy communities and issue networks is their relative position in relation to the policy agenda. Policy communities tend to be at, or near, the core of the policy agenda, with their stable and tight membership structure and consensus on the main issues and involvement, thus contributing to policy continuity, rather than to policy change. On the other hand, it is argued that issue networks ‘as opposed to a policy community, will exist only if there is no threat to the interests of either an economic/producer group or a professional group. Issue networks exist but they are the exception rather than the rule, at the periphery rather than the core of the policy agenda’. The core-periphery distinction can also occur within a policy network as well: that is to say: ‘within a policy network, there is a clear distinction between members with resources and influences and those without’ (Rhodes & Marsh, 1992b:192).

Around a particular policy issue, a policy community and issue network can exist at the same time. In this case, the position of the issue networks is defined by their opposition to the dominant policy, while policy communities are characterised by stability and policy continuity. As Marsh and Rhodes (1992:256) suggest: ‘(...) the issue network is conceptualised as the “outsider” against which the policy network defines itself. The issue network includes the excluded groups who have an interest in the issue but have little or no access to government. At the same time, members of the policy network may become involved in the issue network if they feel their interests are threatened by activity in that network’.

5.4.3 On the dialectical relationship between structure and agency: How does it work?

Agency embedded in the broader context

As already mentioned, networks are not always already preconstituted (Hay, 1998). On a certain policy issue which is at stake, (stand-alone) actors, whether as organisations or individuals, might have interests. They also have resources, whether financial, political or knowledge-based.

Actors' interests and resources, are static until they start strategically acting. Their strategic acting does not take place in a vacuum, but within the setting of the broader context. The broader context is to a large extent constituted by political structure and macroeconomic trends, as well as by the specific policy context of the issue of concern (for instance, spatial policy, transport and infrastructure policy, energy or agricultural policy) and other specific conditions related to the issue. As Hay puts it, as a part of the structured context, the broader context: '[...] can be seen as a crystallisation of past strategies, which privilege some current strategies' (Hay, 1995:199). It does not determine outcomes *directly*, but merely defines the range of options and strategies (ibid.:200). Actors act within the scope of this 'strategically selective' structured context. Hence, their strategies produce intended and unintended effects. They can have a direct effect upon the structured context (producing a partial transformation of the structured context) and an effect on the strategic learning of the actors (ibid.:201).

Agents do not have direct control of the broader context, but they do interpret that context, and this affects their strategic calculations (Marsh & Smith, 2000; Toke & Marsh, 2003).

Agency (embedded in the broader context), interacting with the network structure

As elucidated above, actors' interests and the variation in the resources that actors possess, form the basis of resource dependencies, between them. It is at this point that stand-alone actors are connected to each other in a web of relationships which exists in a policy network. Here, network structure, which is treated as being equivalent to the network shape, is assessed with the dimensions of membership, integration, resources and power. Coherent interests and limited but tight membership would indicate the existence of a policy community, whereas diverging and often contradictory interests with various but loose membership structure would indicate the existence of an issue network. In fact, there are also various intermediate cases between policy community and issue network.

Just as network actors' strategic calculations are affected by their interpretation of the broader context, network structure also both constrains and facilitates the

agents. As such, ‘agents discursively construct the structure and, at the same time, their behaviour is affected by this discursive construction’ (Marsh & Smith, 2000; Toke & Marsh, 2003).

5.5 Diagrammatic representation of the revised dialectical model

Basically, the revised dialectical model of policy networks is about the interrelationship between the four key variables: network agency (as constituted by actors’ (i) interests; (ii) resources; and (iii) strategic interaction); network structure; the broader context, and policy outcome. The model, with its key variables and their interrelationships, is visualised in Figure 5.1.

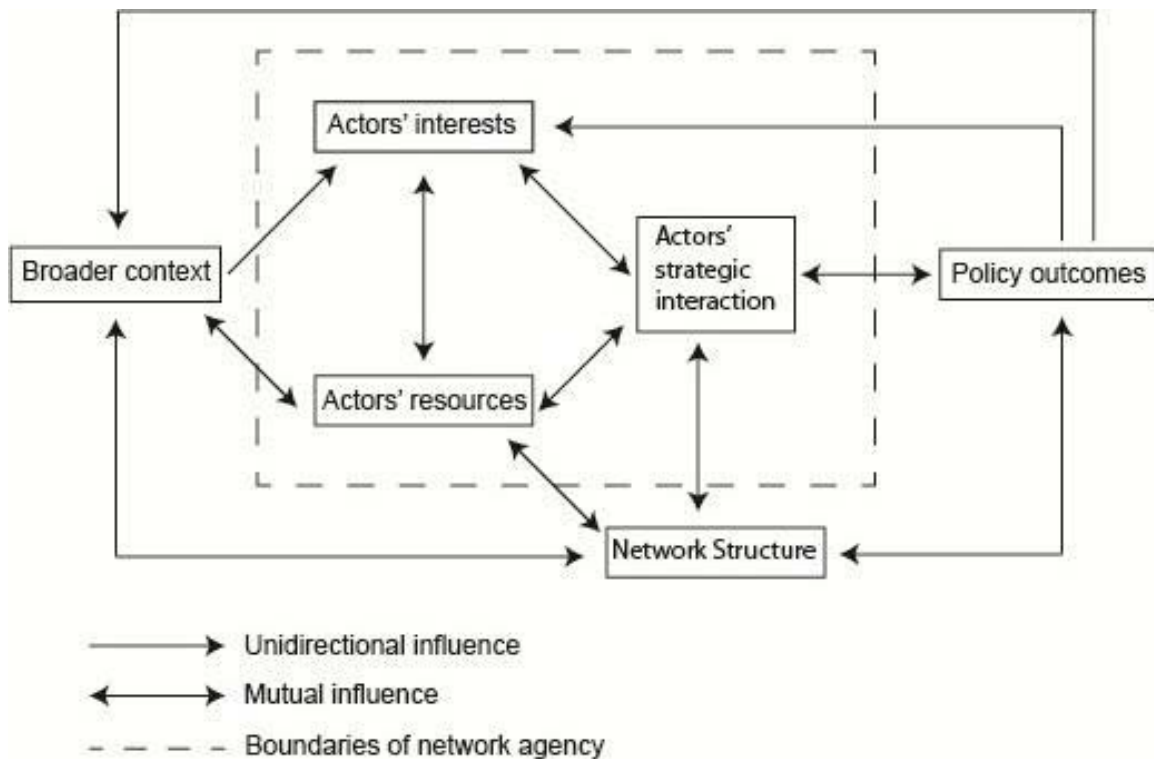


Figure 5.1: The diagrammatic representation of the revised dialectical model of policy networks

All arrows indicate mutual influence between the key variables, with three exceptions:

- (i) the arrow between policy outcomes and the broader context indicates a unidirectional influence. The broader context influences policy outcomes indirectly via network agency (actors’ interests and resources) and network structure. Policy outcome in return may exert a direct (as well as indirect) influence on the broader context.

- (ii) The influence of the broader context on the actors' interests is unidirectional; whereas the interaction between the broader context and actors' resources and network structure, involves mutual influence.
- (iii) Actors' interests have an indirect influence (via actors' strategic interaction) on policy outcome. In turn, policy outcome exerts one-way direct influence back on the actors' interests.

The major characteristics of the revised dialectical model of policy networks include the following:

- The broader context exerts direct influence both on actors' interests and resources; and on network structure. The influence of the broader context on the policy outcome is indirect, i.e. it goes via the components of network agency and network structure.
- Actors' strategic interaction is a reflection of actors' interests and resources as well as of network structure. It constrains and facilitates network structure.
- Network structure is a reflection of the broader context, actors' resources, actors' strategic interaction, and policy outcome.
- Policy outcome reflects actors' strategic interaction and network structure, embedded in the broader context.

While there is a deliberate attempt to elaborate on what policy outcomes are, and their interrelationship with other variables, the role of process cannot be underestimated in explaining how, and why, certain policy outcomes occur. Networking stages thus constitute the *process variable* of the revised dialectical model (as already mentioned in Section 5.1). They embrace the interrelationships of the key variables of the model. Therefore, networking stages do not appear in the diagrammatic representation of the model. However, they are inherent in the model; and they form a crucial part of its operationalisation.

5.6 Operationalising the revised dialectical model of policy networks

This section focuses on operationalising the model, which will inform the case study analyses in Chapters 6 and 7. The operationalisation of the model involves four steps, each of which attempts to explain and understand one or a multiple set of interrelationships as can be observed in Figure 5.2. Operational components of all key variables and the characterising events of the networking stages are provided in Tables 5.1 and 5.2.

Operationalisation Step 1 involves the interrelationship between networking stages and network shape. Networking stages, which can vary as network formation, network expansion, network reconstitution, network stabilisation, network stagnation, network revitalisation, network termination (see Table 5.2),

can be linked to network shape (treated as being equivalent to network structure). Network shape refers to policy community, issue network, or a shape that ranges between the two; and it can be identified by membership, integration, resources, and power (see Table 5.1).

Operationalisation Step 2 involves two interrelationships: *first*, between policy outcomes (see Table 5.1) and network shape (see Table 5.1); and, *second*, between policy outcome (see Table 5.1) and networking stages (see Table 5.2).

Operationalisation Step 3 involves the analysis of one set of interrelationships among multiple key variables. This analysis is repeated per policy outcome. In this respect, each identified policy outcome in the field of spatial-economic policy, energy and transport [whether in the form of a policy objective, policy instrument, intermediate/interim policy decision, incremental modification, non-decision or no-implementation (see Table 5.1)], is explained in terms of which dialectical relationships lie underneath; hence, how each policy outcome comes about.

Operationalisation Step 4 involves the analysis of one set of interrelationships among multiple key variables just as in the Operationalisation Step 3; however, this time, across all policy outcomes. This provides an overview of the dialectical relationships, encompassing all policy outcomes over the course of all stages of networking.

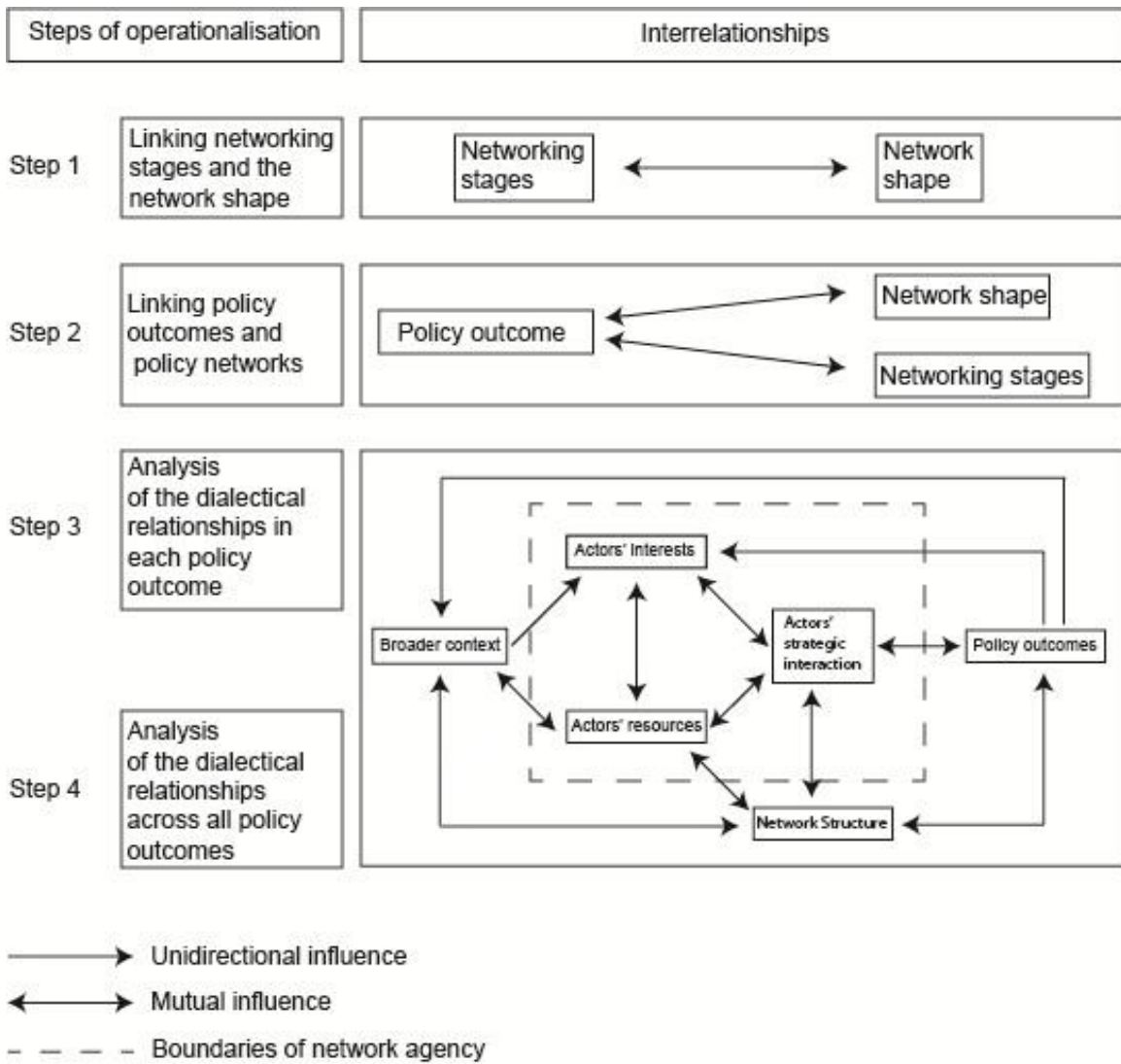


Figure 5.2: Operationalisation of the revised dialectical model of the policy networks

Table 5.1: Operational components of the key variables

Key variables		Operational components
Network agency	Interests	<ul style="list-style-type: none"> - Economic interests - Societal interests - Professional interests - Scientific interests
	Resources	<ul style="list-style-type: none"> - Authority or legal resources - Money or financial resources - Political resources - Informational resources - Organisational resources
	Strategic interaction	<ul style="list-style-type: none"> - Selection of objectives - Selection of the most appropriate means to reach the objectives - Strategic intention - Strategic calculation - Concession - Feedback from the actor's strategic learning
Network structure (network shape)		<ul style="list-style-type: none"> - Membership - Integration - Resources - Power <p>as identifying characteristics of the policy community, issue network; or a range of networks between the policy community and the issue network.</p>
Broader context		<ul style="list-style-type: none"> - Political structure - Macro-economic trends - Specific policy context at the national, provincial, regional, or local level regarding, for example, land use, energy, transport
Policy outcome		<ul style="list-style-type: none"> - Policy objective - Policy instrument - Intermediate or interim policy decisions - Incremental modifications - Non-decision - No implementation

Table 5.2: Characterising events of networking stages

Networking stages	Characterising events
Network formation	<u>Setting the basics of the playing field</u> - Recognition of potential for mutual advantage through collective action* - Recognition of action potential for enhancing the strategic capacities of participating organisations through the pooling of strategic resources* - Recognition and/or establishment of the conditions for network feasibility* - Network traits, characteristics, and properties are established*
Network expansion	<u>Setting the expanded playing field</u> - New actors join; new interests are introduced - New policy objectives and/or instruments are introduced
Network reconstitution	<u>Putting all the cards on the table</u> - Can be divided into several sub-stages; marked by significant events (led by important policy/legal decisions), which create a turning point - Network's strategic resources are enhanced in response to changing circumstances* - Interest forwarding and strategic interaction pay off - New actors may get involved
Network stabilisation	<u>Having settled down</u> - Continuation with the established patterns in the network - Activities may turn into business-as-usual
Network stagnation	<u>Cooling down</u> - Network actors enter into a stand-by mode - Lower level of interest or impetus for strategic interaction - Activities conducted at a low profile
Network revitalisation	<u>Going back to the playing field</u> - Network actors become more active - Increasing level of interest or impetus for strategic interaction - Activities conducted at more dynamic pace
Network termination	<u>Leaving the playing field</u> - Whittling away of strategic partners* - Gradual decline in the influence of network*

* Based on Hay (1998)

EMPIRICAL PART

Chapter 6

The Ecofactorij Apeldoorn: A municipal attempt to develop a sustainable business park

During the mid-1990s, the Municipality of Apeldoorn decided to initiate the Ecofactorij as a sustainable business park. The Ecofactorij is located at the south-eastern fringe of Apeldoorn, which is a city with more than 150,000 inhabitants. The location of the Ecofactorij is well connected to the motorways, other roads, and railways, as can be seen in Figure 6.1. It is considered a strategically important location due to its linkage to the junction of two major motorways, the A1, connecting Amsterdam to Germany to the East, and the A50, connecting Eindhoven to Zwolle to the West. Most of the Ecofactorij plots are visible from one of these highways.

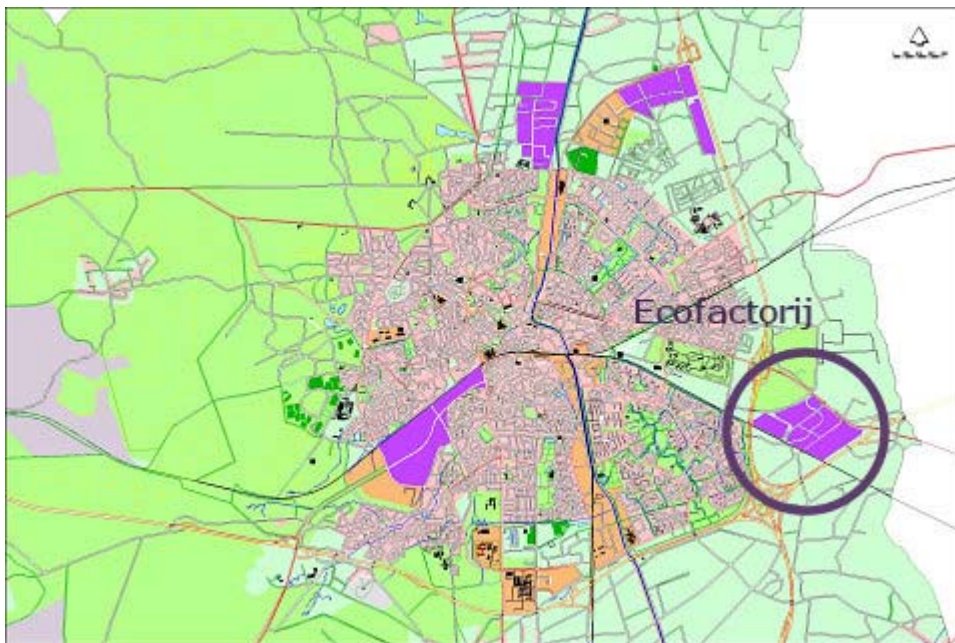


Figure 6.1: Location of the Ecofactorij Business Park, Apeldoorn
Source: <http://www.apeldoorn.nl/smartsite.dws?id=108169>

The Ecofactorij Business Park is 95 ha, out of which 71 ha is allocated for development. By March 2011, 40 ha was in use by nine companies⁵². By early 2011, the Municipality of Apeldoorn anticipated that about 6 ha would be sold in the rest of 2011 (Correspondence with Peter Scherders, February 2011).

On the southern fringe of the Ecofactorij Business Park, the Municipality of Apeldoorn is planning a new business park, called Ecofactorij II, for which 45 ha land has been allocated. Since a separate project management organisation has been appointed for this new business park, which is yet to be developed, the focus of this case study will be only on the existing Ecofactorij Business Park and the policy network related to it.

The evolution of Ecofactorij from a concept to an actual business park and the concomitant evolution of the Ecofactorij policy network offers an interesting case for applying my revised version of the dialectical model of policy networks. This case study will involve an analysis at four-steps, as suggested in the operationalisation of the model (see Chapter 5).

In Section 6.1, the stages involved in the networking around the Ecofactorij will be examined. This section offers a longitudinal approach to the genesis of the Ecofactorij Business Park. As such, the policy network around the Ecofactorij went through the various stages of networking such as network formation, network expansion, network reconstitution and network stabilisation. Along with these stages of networking, there have been a different range of actors in the core and the periphery of the network. The changing composition of the network and the changing positions of the actors have had an impact on the network shape. This section ultimately aims to make a linkage between the stages of networking and the network shape.

Section 6.2 focuses on the policy content with the eventual goal to link the policy outcomes to the policy networks. This analysis first specifies how land use, energy and transport policies are formulated in the Zoning Plan and Quality Plan of the Ecofactorij. However, in practice, the policy outcomes have often deviated from the formulated policies; sometimes no-implementation was the outcome. As such, the achieved policy outcomes are first identified; and, then, they are linked to the change in the network shape, as well as to the stages of networking.

In Section 6.3, the analysis is centred on the identified policy outcomes. This level of analysis aims to explain how each policy outcome has come into

⁵² Companies located in the Ecofactorij by March 2011: *Grolleman Coldstore*, a company specialised in the storage and transportation of deep freeze products; *Reesink*, a technical wholesale company; *Harbers Volvo*, a multifunctional Volvo Truck Center; *Sandd* Post company *SILS* International logistics services; *Henk van de Scheur* International Freight Transport *Texaco* (Salland Oil) Fuel; and *CNG BIA-Komatsu* Grondverzetmachines, Man BV. In addition to these, the Ecofactorij Information Centre was under construction, by then.

existence. As such, the dialectical relationships per policy outcome, as linked to network structure, network agency, and the broader context, are examined.

Section 6.4 provides an analysis of the dialectical relationships across all the policy outcomes in the Ecofactorij. This last level of analysis aims to explain the policy outcomes through the lens of dialectical relationships. In this analysis, the dialectical relationships between network structure and agency; between network and context, and between network and policy outcomes are examined.

Finally, in Section 6.5, the synthesis of the findings of all the operationalisation levels are provided. Following that, a retrospective account is provided regarding how the revised dialectical model works throughout the Ecofactorij case.

The Ecofactorij case

Operationalisation Step 1

Linking the networking stages and the network shape

6.1 Linking the networking stages and the network shape

6.1.1 Stages of networking in the Ecofactorij

The Ecofactorij policy network evolved during the course of five networking stages: network formation; network expansion; network reconstitution I; network reconstitution II; and network stabilisation. Let us have a look at these stages one by one and subsequently examine the linkages between the networking stages and the change in the shape of the Ecofactorij policy network.

6.1.1.1 Formation of the Ecofactorij policy network, 1995-1997

The idea of developing a business park on the site of the current Ecofactorij dates from the mid-1990s. In those days, this business park was called Apeldoorn Oost. The idea of developing the Business Park Apeldoorn Oost was triggered by two factors:

First, the Municipality of Apeldoorn and the Province of Gelderland initially considered developing a regional business park at this location. The mission of a regional business park would be to accommodate companies which: (i) needed a large space; (ii) were not permitted to be located in or near the urban areas because of the nature of their activities (Environmental Categories 4 and 5⁵³, logistics activities, etc.); and (iii) had business contacts beyond the local level, i.e. regional, national, international, etc. As such, this type of business park would need to be located outside the urban area, close to the major road network; and be accessible for employees from the region and beyond (Interview with Peter Scherders, March 2005).

Second, a commercial company called Reesink, expressed its desire to move from Zutphen onto a plot within the boundaries of the Municipality of Apeldoorn. The land that Reesink wanted to move into needed to be large enough to accommodate a logistics company, which had plans for future physical expansion. In addition, the new location needed to be well-connected to the provincial roads and highways. The Municipality of Apeldoorn originally offered Reesink a business space in the northern part of city; but Reesink wanted to stay close to Zutphen where most of their employees lived. Moreover, highways were accessible from the Ecofactorij in the North-South and East-West directions. Additionally, locating a new warehouse along the railway, would make it easier in the future to ship goods in and out by train. Thus, the area designated for the current Ecofactorij was a perfect match for the conditions that Reesink required (Interview with Bernard ten Doeschate, February 2006). For the Municipality of Apeldoorn, it was not easy to refuse a company like Reesink, which was registered on the Amsterdam stock market. Hence, both parties agreed that

⁵³ For more information on the Environmental Categories, see footnote 25 in Section 1.5.

Reesink would move to this location, and signed a contract in March 1997 (Interview with Peter Scherders, March 2005).

Soon afterwards, the idea of locating transport and logistics companies in the Apeldoorn Oost Business Park was abandoned, despite its highly accessible location. This would mean that the transport and logistics activities would be located in the northern part of the town, although the eastern part, where the Ecofactorij would be based, would actually be the most accessible area for the transport and logistics activities. This decision of the Municipality of Apeldoorn was therefore considered to be unfortunate by a number of logistics companies, which would subsequently approach the Municipality of Apeldoorn with a request to relocate in the Ecofactorij Business Park (see Sections 6.1.1.2, 6.1.1.3 and 6.3.3.1). This decision had to do with the spatial planning policy of the Municipality of Apeldoorn, which did not favour suburban development. The Municipality wanted to keep the development within the urban boundaries. The location choice for the Ecofactorij was not in line with this principle (see also the Zoning Plan): the Ecofactorij was located on the East side of the A50. This road was seen as a natural border between the urban and rural areas. Therefore, building a new business park on the east side of the A50, which would imply expansion towards the rural areas, was another reason for the Municipality of Apeldoorn to add sustainability principles. Thus, Apeldoorn Oost Business Park had to have some extra features than a regular business park, e.g. ambitions for sustainable development, which would differentiate it from a regular business park. This idea accordingly brought a change in the sectoral focus of Apeldoorn Oost: i.e. the industrial sector rather than transport and logistics sector would better suit the idea of a sustainable business park in which the principles of industrial ecology (see Chapter 1) could be applied. As such, companies could exchange streams of waste and energy, and by that means, they would have environmentally-friendly activities (Gemeente Apeldoorn, 1999; Interview with Peter Scherders, March 2005).

In 1996, a special Project Group for the Apeldoorn Oost Business Park was formed within the Department of Project Development of the Municipality of Apeldoorn. Given the complexity of developing a sustainable business park, the project group was composed of representatives of nine municipal departments⁵⁴. The project group started working on a Zoning Plan⁵⁵ for the Apeldoorn Oost Business Park.

6.1.1.2 The Ecofactorij policy network expansion, 1998- 2001

The expansion stage of the Ecofactorij policy network was primarily earmarked by transport and logistics companies, which were increasingly interested in settling in the Ecofactorij.

⁵⁴ These are the Departments of Mobility, Landscape, Environment, Spatial Planning, Project Development, Legal Affairs, Infrastructure, Communication and Finances.

⁵⁵ In Dutch: *bestemmingsplan*.

At the same time, during this stage, the municipal project team of the Ecofactorij was occupied with formulating the Zoning Plan and the Quality Plan. The conditions of sustainability under consideration by the Municipality of Apeldoorn had already created tension at Reesink. Because of the lengthy process of Zoning Plan preparations, Reesink was not able to relocate in the Ecofactorij in the estimated time frame. The disagreement and the delay in relocation led to a long drawn-out legal dispute between Reesink and the Municipality of Apeldoorn during the early and mid-2000s. Only in the later phase of the network expansion stage, namely in 2003, did Reesink move into the Ecofactorij; however, it did not agree with the conditions of the Zoning Plan and the Quality Plan of Ecofactorij, which came into effect after the company signed an agreement with the Municipality of Apeldoorn. Therefore, although physically located in the Ecofactorij Business Park, Reesink has not been subjected to the sustainability ambitions of the Ecofactorij Quality Plan; and nor did it eventually join the Park Management Cooperative (PMC), which was established in 2003 (see 6.1.1.3 and 6.3.4) (Interview with Bernard ten Doeschate, February 2006; Interview with Peter Scherders, March 2005). This meant that Reesink got out of the network.

In spring 1999 a number of transport and logistics companies expressed an interest in moving into the Apeldoorn Oost Business Park. For instance, the Transport Company Henk van de Scheur Transport sent a letter in May 1999 to the Municipality of Apeldoorn, in which Henk van de Scheur, the owner of the company, questioned the current state and the future of the transport and logistics sector in the city. More specifically, he expressed his willingness to develop the Apeldoorn European Logistics Centre (ELCA⁵⁶) in the Apeldoorn Oost Business Park. His goal was to create a network of locally specialised, small and medium-sized logistics companies which would have a Europe-wide service coverage. There were nine other companies who expressed firm interest, and there were another 15-20 other companies who showed potential interest. TLN (Transport and Logistics Nederland), the interest organisation of the Dutch transport sector, also sent a supportive letter to the Municipality in June 1999. In addition, in June 1999, Henk van de Scheur Transport contacted with the Province of Gelderland and an advisory firm, regarding a feasibility study on the road-rail freight terminal in the Ede/Apeldoorn region. Two locations were suggested in this study; one of which was the Apeldoorn Oost Business Park (Interview with Henk van de Scheur, April 2010).

Around the same time in 1999, the Municipality of Apeldoorn sponsored a contest in order to find a new name for the Apeldoorn Oost Business Park. The Municipality described the goals of this business park, and announced a competition in the newspapers, in which citizens were invited to create the best name. The winning name was 'Ecofactorij' in which 'eco' referred to both ecology and economy and 'factorij' was the old Dutch word for factory (Interview with Peter Scherders, April 2010). This name reflected well the ambition for a sustainable industrial park.

⁵⁶ *Europees Logistiek Centrum Apeldoorn.*

The Zoning Plan of the Ecofactorij was drafted in February 1999 by the Municipality of Apeldoorn; agreed in September 1999⁵⁷; and approved by the Provincial Executive, Managing Committee⁵⁸ of Gelderland on 14 March 2000⁵⁹. The goal of the Zoning Plan was to develop a high value, sustainable and large-scale business park (Gemeente Apeldoorn, 1999), which allowed business activities classified in Environmental Categories 3 and 4⁶⁰.

Already, earlier in March 2000 (before the approval of the Provincial Executive, Managing Committee), a project development company and a number of interested companies including Henk van de Scheur Transport and Harbers Trucks had approached the Municipality of Apeldoorn at various times, in order to lobby for the establishment of a production, service and transport centre in the Ecofactorij (Interview with Jan Harbers & Jan-Reint Harbers, April 2010; Interview with Henk van de Scheur, April 2010).

The idea of the Ecofactorij Business Park was publicly announced in October 2000 in a symposium on sustainable business parks, organised by the Gelderland Social Partners (SoPaG)⁶¹ and the Green Left political party. Among others, there were speakers from various organisations, such as SoPaG, the Municipality of Apeldoorn, the Environmental Federation of Gelderland⁶², the Province of Gelderland, the University of Wageningen, and a private real estate agency. In this symposium, Theo Kuijpers, the Alderman of Apeldoorn, responsible for economic affairs, gave a presentation on how the Municipality was considering making the Ecofactorij a sustainable business park. Although not yet officially released, the outline of the Ecofactorij Quality Plan was made public at this symposium. One of the topics raised during the discussion session of the symposium was related to the renewable energy generation in the Ecofactorij. As such, a company called Fibroned was interested in investing in a bio-energy plant at the Ecofactorij, where they wanted to produce energy by incinerating poultry manure. This investment idea was contested during the discussion⁶³ (the investment proposal of Fibroned, which became a hot and

⁵⁷ Decision number: ROW.RO 142/1999.

⁵⁸ In Dutch: *Gedeputeerde Staten*.

⁵⁹ Decision number RE 1999-88075.

⁶⁰ Environmental Category 3 refers to the activities, which due to their nature, are allowed to be established around quiet residential neighbourhoods. Environmental Category 4 refers to the activities, which due to their nature, must be separated (at least 200 m) from the residential neighbourhoods by, for example, green zones, park or water. Environmental Categories 3 and 4 consist of business activities in the following industrial fields: food, textiles, clothing, leather, wood and furniture, paper and stationery, graphics and publishers, petroleum and coal processing, chemicals, artificial and synthetic yarns and fibres, rubber and plastic processing, construction materials, pottery and glass, basic metals, metal production, electro-technical, transport-related, instruments and optics, and public facility companies such as electricity producing and distribution companies, gas and water distribution companies, etc. (Gemeente Apeldoorn, 1999).

⁶¹ SoPaG is a foundation with members from the Province of Gelderland and social partners of the town, established in order to lobby in The Hague.

⁶² *Gelderse Milieu Federatie*.

⁶³ Source website is no longer available.

controversial issue soon afterwards, is elaborated in Chapter 7 as an embedded case study to the Ecofactorij case).

According to the project description retrieved from the Novem database, the Ecofactorij was included in the Subsidy Regulation for Stimulating Sustainable Business Parks (see Chapter 1). Sustainability and efficiency were the two central items in the development of the Ecofactorij, where the intention was to balance companies' economic interests with sustainability principles. The Ecofactorij Quality Plan would be the guideline for sustainability. In 2000, the Ecofactorij was awarded with subsidies for two feasibility studies; an organisational feasibility study concerning developing a Park Management Cooperative and a technical feasibility study with a 'collection' of projects regarding sustainability, with a focus on energy-related projects.

Later, in 2001, the Quality Plan was officially announced (Interview with Peter Scherders, March 2005). The vision of sustainability that the Municipality of Apeldoorn attached to the Ecofactorij within the local business environment is clear in the Quality Plan. The basic features of the Quality Plan can be observed in Box 6.1.

Box 6.1: The Ecofactorij Quality Plan in a nutshell

The Ecofactorij Quality Plan focuses on ten themes: image; employment; land use; accessibility; visual quality; energy; water; soil; waste; and nuisance. Each policy theme has attached quality conditions. As can be observed in the table, these conditions are set in a structure of three-clusters:

The organisation of the quality conditions in the Quality Plan

Clusters of quality conditions	By whom	Nature
First cluster	Municipality	Obligatory
Second cluster	Companies (collectively)	Obligatory
Third cluster	Companies (individually)	Optional

The responsibility for establishing a sustainable business park is distributed among the two major parties involved: (i) the Municipality of Apeldoorn, as the initiator of the project and the owner of the most of the land on which the Ecofactorij was to be built; and (ii) the commercial companies that would be relocated in the Ecofactorij.

The first cluster specifies the conditions to be fulfilled by the Municipality, while the second cluster contains the conditions to be fulfilled by the resident companies in cooperation with each other. While the first two clusters are obligatory, it is optional for companies to execute the third cluster individually, i.e. they are free to fulfil the criteria under the third cluster for further sustainability if they wish to gain a certain number of environmental points (a bonus system) from the Municipality, on the basis of which they can get a maximum 10 % discount on the land price.

Source: Gemeente Apeldoorn (2001).

6.1.1.3 The Ecofactorij policy network re-constitution I, 2002-2006

The first development, which gave a start to the first round of network reconstitution, was related to the expansion of the Ecofactorij by 5 ha in 2002-2003. This came together with the signing of a Public Private Partnership agreement between the Municipality of Apeldoorn and a private property owner. This development had an interesting background.

As such, Willem Roeterdink, a private property owner, who in 1996-1997 bought the 5 ha of land at the south-east corner of Ecofactorij, approached the Municipality of Apeldoorn around 2000-2001 with the idea of co-developing this land within the Ecofactorij project. Initially, there was resistance to this spatial enlargement idea from the Department of the Environment of the Municipality of Apeldoorn. This resistance was expressed during the discussions within the Ecofactorij project management team, especially between two team members, one representing the Department of the Environment, and the other representing the Department of Project Development. The discussions, which were not highly controversial, were resolved in 2002 with an investment decision on this 5 ha of land. In return, financial compensation was paid to the Department of the Environment by the Department of Project Development. During 2002-2003, the Municipality of Apeldoorn and the owner of the land signed a Public-Private Partnership agreement. However, following the death of the owner of the land, this partnership was dissolved, and the Municipality of Apeldoorn bought it from the heirs. Consequently, the Ecofactorij land increased to 95 ha, out of which 71 ha were to be developed (Interview with Peter Scherders, April 2010).

The second development which strengthened the network reconstitution was related to when the first company moved into the Ecofactorij, and, subsequently, the establishment of a Park Management Cooperative (PMC). It could be argued that Grolleman Coldstore was the first company to relocate in the 'Ecofactorij Business Park' in 2003 [since Reesink, which also moved in 2003, did not agree with the conditions of Ecofactorij, and was in a legal dispute with the Municipality of Apeldoorn (see 6.2.3)]. Yet, soon afterwards, the PMC was initiated by Grolleman Coldstore and the Municipality of Apeldoorn, and chaired by Dick Grolleman.

However, possibility for a new company to relocate in the Ecofactorij came to a halt because of an external constraint. As such, in 2003, Dumeco, a pork processing company, signed a contract with the Municipality in order to move onto the plot next to Grolleman Coldstore. Dumeco intended to freeze their meat in the Grolleman Coldstore, but also to make use of their residual heat⁶⁴. Dumeco also wanted to use the heat that was going to be produced by the poultry manure incinerator of Fibroned, which wanted to locate in the Ecofactorij. However, soon after, Dumeco had to cancel its contract, due to a pig disease epidemic, which influenced their business. This was a lost opportunity to realise

⁶⁴ In Dutch: *restwarmte*.

some industrial ecology principles in the Ecofactorij, as a result of which some environmental benefits could have been gained.

In addition to these developments, the Ecofactorij policy network proceeded to re-constitute itself during the course of the Zoning Plan revision and approval in the 2002-2005 period. The involvement of other actors became most evident during the approval of the Zoning Plan. As a reaction to the Zoning Plan, the residents living in the vicinity of Zutphensestraat (i.e. the provincial road alongside which the Ecofactorij was planned), and the Landscape Association of Gelderland expressed their environmental and quality of life-related concerns. On the other hand, the reaction of the Chamber of Commerce of Veluwe and Twente was driven by economic motives. As such, the Chamber of Commerce was concerned that an ambitious sustainable business park would not be able to attract business to the city. During the discussion(s) at the City Council, both the Landscape Association of Gelderland and Chamber of Commerce were persuaded that the Ecofactorij would be a green business park, which would not interfere with the local landscape. In the end, all agreed that the Ecofactorij would become a sustainable business park (Interview with Peter Scherders, March 2005). The residents of Zutphensestraat and the Landscape Association of Gelderland were reassured that environmental values and local quality of life would be preserved, while the Chamber of Commerce was convinced that the ambitions for a high level of sustainability would not hinder the process of finding companies to relocate in the Ecofactorij.

As a result of the discussions and negotiations, a partial revision of the Zoning Plan was fixed in October 2006. Three changes were introduced by this partial revision: in the sectoral focus; in building heights; and in plot sizes.

Change in the sectoral focus

The change in the sectoral focus involved allowing warehousing, transport and logistics companies to relocate in the Ecofactorij, in addition to the production companies. This change was triggered by two factors: *First*, there was a general trend that many production activities were tending to relocate abroad, where investment and labour costs were cheaper. Therefore, throughout that time, there did not seem to be much demand from production companies to relocate to the Ecofactorij. This caused the business park to have many vacant plots. *Second*, transport and logistics companies showed explicit interest in relocating in the Ecofactorij.

Eventually, the Municipality of Apeldoorn accepted that the involvement of transport and logistics companies in Apeldoorn would contribute significantly to the careful matching of companies' need for space and the available capacity in the business parks. The Municipality was consequently convinced that the nature of logistics activities would not hinder the sustainability ambition in the Ecofactorij. Although production companies can reach sustainability in various areas such as water and waste management, the resources they use, etc., it was

acknowledged that the recent trends in the freight transport sector, such as VAL (value added logistics), also allowed those companies to incorporate sustainability. In contrast to the traditional idea that the transport sector uses large buildings where there is little activity, VAL involves more efficient use of space, for various activities such as receiving large amounts of good, handling these goods, packaging and distribution, etc. It was agreed that, although their contribution might be limited when compared with production companies, transport companies could achieve some progress towards sustainability in energy, mobility, and spatial use (Gemeente Apeldoorn, 2006). These arguments, although partially reflecting the facts, were only partially discursively constructed by the Municipality. In reality, the possibilities for achieving synergy of waste streams and energy production were considerably limited with the transport and logistics firms. This was definitely a shift away from a sectoral focus, which would allow the Municipality of Apeldoorn to develop a 'sustainable business park'. Nevertheless, many of the conditions laid out in the Quality Plan were made for production companies, not for the logistics and transport firms.

Building height

Formerly, the average building height was to be maximum 20 m. In the revision, companies were allowed to build 30 m high buildings, although on no more than 25 per cent of their plots (Gemeente Apeldoorn, 2006).

Plot size

The smallest plot size for each company was originally defined as 3 ha. However, the revision suggested that the minimum size of a plot could be 1.5 ha (maximum 20 per cent of the whole space) (Gemeente Apeldoorn, 2006).

The changes in the first two items were due to the influence of the Chamber of Commerce of Veluwe and Twente and individual companies. The third item also denotes a shift away from the principle of accommodating large-scale companies, since it opens up space for small companies. Besides logistics companies, there was also a demand from smaller companies. These companies were allowed to take part in a specially dedicated area between Zutphensestraat and the green area (Interview with Peter Scherders, April 2010).

Meanwhile, new companies, such as Harbers Trucks and SANDD, started discussions with Apeldoorn Municipality in 2005 and relocated to the Ecofactorij in 2006. Harbers Trucks started with 1.5 ha space in December 2006 and then acquired 2 ha extra space in December 2009 (see 6.1.1.4). They established a logistics service centre in a large building and rented out space to companies which would conduct complementary services in the truck business. Ultimately, the entire complex, run by Harbers Trucks, not only gave a complete service for trucks, but also ensured energy efficiency and cost saving because seven companies shared one building (Interview with Jan Harbers & Jan-Reint Harbers, April 2010).

6.1.1.4 The Ecofactorij policy network re-constitution II, 2007-2009

During this stage, the change in the sectoral profile of the business park became more evident following the revision of the Zoning Plan, which involved a change in the sectoral focus of the Ecofactorij, allowing transport and logistics companies to settle in (see Section 6.1.1.3). For instance, logistics service provider Henk van de Scheur Transport, who first considered relocating to the Ecofactorij in 1999, and needed to wait until a revision was made to the Zoning Plan, had a number of meetings with the Municipality during 2006-2007. The alternative for them would have been moving to a location in the city of Deventer (about 15 km away from Apeldoorn). Eventually, during late 2007, once the revision was agreed, Henk van de Scheur Transport completed the construction of their new building, which allowed them to move into the Ecofactorij in January 2008. Following that, SILS Logistics also moved to the Ecofactorij in 2008.

Another company interested in Ecofactorij was Apeldoorn-based Weweler, which produced spare parts for trucks. Weweler realised in 2007 that it did not have enough space in its original location and, therefore, talked with the Municipality of Apeldoorn about space in Ecofactorij. By March 2011, Weweler had an option on the land next to Grolleman Coldstore (which Dumeco was previously interested in). However, the company went into a decline in 2008, so, the option was kept for it unless and until another company would require the plot reserved for Weweler (Interview with Peter Scherders, April 2010). Later, in December 2009, Harbers Trucks expanded its site by 2 ha (Interview with Jan Harbers & Jan-Reint Harbers, April 2010).

In January 2009, the 2nd revision of the Ecofactorij Zoning Plan took place. This was about the preliminary design of the three wind turbines which would be installed at the Ecofactorij. Later in 2009, the Ecofactorij was ranked among the top-25 business parks in the Netherlands, based on the following 9 criteria: economic value; accessibility; facilities; image; design; safety; strategy and goals; cooperation and involvement; and the position of the business park in the local and regional context. The Ecofactorij was praised for its efforts to develop a sustainable business park, especially regarding its efforts to encourage sustainable energy sources (Bedrijventerreinen⁶⁵, 2009).

6.1.1.5 The Ecofactorij policy network stabilisation, 2010 onwards

Although a number of activities have taken place in, or related to, the Ecofactorij, the period from 2010 qualifies as the network stabilisation stage. This is because the nature of the activities indicates a settling down/maturation in the business park. Furthermore, the role of Municipality of Apeldoorn became less prominent, and the PMC became more in charge of the activities.

⁶⁵ Annual Book of the Best Business Parks. Publication originally in Dutch: *Jaarboek Beste Bedrijventerreinen*.

First a 3rd revision was considered in which 'bio-energy companies' would be added to the list of company types which would be permitted to relocate in the Ecofactorij. This was also in order to accommodate companies producing green energy such as Fibroned. However, soon afterwards, the idea of the 3rd revision was abandoned as there would be a new Zoning Plan.

Preparations for the new Zoning Plan for the Ecofactorij began in 2010, because it needs to be renewed every 10 years. In order to provide input for the new Zoning Plan, in April 2010 the Municipality sent evaluation forms to the companies asking them to assess the sustainability policy of the Ecofactorij on the basis of seven themes. These themes were: design; protection of archaeological values; multiple intensive land use; spatial and environmental quality; energy, water and waste; traffic and transport; enforcement and strengthening of the existing qualities. As a result, a report was drafted in September 2010, which included three sets of information per theme: points of departure in the Zoning Plan 2000; the conclusions of the people and companies who filled in the questionnaire; and the recommendations. This report is planned to feed into the new Zoning Plan.

The Municipality intends to reflect the findings of the sustainability evaluation in the new Zoning Plan, expected to be launched in 2011⁶⁶. These findings will, however, not be incorporated in the Ecofactorij Quality Plan, because the existing companies who were committed to the first version of the Quality Plan might not agree with all the conditions of a renewed version of it. This might cause legal disputes between the resident companies and the Municipality, as has already happened before with Reesink (see Section 6.2.3). However, the insights from the sustainability evaluation questionnaire might be reflected in the Quality Plan of the Ecofactorij II⁶⁷, which is currently planned in the south of the Ecofactorij site as a separate project (Interview with Peter Scherders, April 2010).

The Ecofactorij Quality Plan, in its third 'cluster' of quality conditions (see Section 6.1.1.2 and Box 6.1), not only lists a number of optional actions which could be taken by the individual companies, but also offers flexibility to the companies in initiating other sustainable activities in the areas of their preference. In this respect, a stand-alone initiative for sustainability came from one of the residents of the business park in the network stabilisation phase. As such, in 2010, Harbers Trucks applied for a Certificate of Recognised Sustainability⁶⁸ for truck dealers. By this means, they intended to be the first truck dealer who received this certificate, which was originally meant for the cars (Interview with Jan Harbers & Jan-Reint Harbers, April 2010).

⁶⁶ As of March 2011, it was not yet launched.

⁶⁷ Ecofactorij II is in the Programming phase. The programmed size is 45 ha, in which plots were already being defined by March 2011.

⁶⁸ *Certificaat Erkend Duurzaam*.

The activities in the Ecofactorij have expanded to some extent: Henk van de Scheur Transport had plans for site expansion. Sparkling Projects, a consultancy company specialised in sustainable energy, commissioned A2 Architects to design a new building in the Ecofactorij which will be used as the Ecofactorij Sustainability Information Centre⁶⁹. This centre is an initiative of Sparkling Projects and aims to facilitate the starting companies to take part in the sustainable Ecofactorij Business Park. As can be observed in Figure 6.2, the building is designed in the shape of a beech leaf, which also resembles the logo of the Ecofactorij PMC. The building design not only has a symbolic connotation for sustainability, but it will also incorporate sustainability characteristics, with elements such as a roof with photovoltaic panels to tap solar energy; insulation with sheep wool; FSC⁷⁰-certified wood; an air conditioning system based on water; a biomass boiler; heat and cold storage in the building; an energy efficient light plan; and the storage of rainwater on the site.



Figure 6.2: The Ecofactorij Sustainability Information Centre in the design phase
Source: A2 Architects at <http://www.informatiecentrumecofactorij.nl/nl/ontwerpfase/>

This building which was expected to be complete in the summer of 2011 would accommodate three organisations:

- (i) Sparkling Projects, the energy consultancy company, which is at the same time the initiator of the construction of this building. This company has already taken part in some of the energy related projects, which have been conducted by the resident companies of the Ecofactorij (see 6.2.3.2)
- (ii) The Ecofactorij PMC;

⁶⁹ Information retrieved from <http://www.informatiecentrumecofactorij.nl>

⁷⁰ Forest Stewardship Council.

- (iii) The innovation network of the Stedendriehoek Region⁷¹. This organisation involving innovative enterprises of the Stedendriehoek region (consisting of three cities: Apeldoorn, Deventer and Zutphen) aimed to promote the innovation in, and between, the companies of the region in order to strengthen the economic development of the region.

Meanwhile, a change in the legal context indicated a change in the responsibility of the Municipality: according to the new Law of General Provisions of Environmental Permit (WABO)⁷², the Provincial governments were entitled as of October 2010 to assign construction permits to those establishments with a larger capacity than 75 thermal megawatts. In those cases, the role of the Municipality remains advisory. However, for the establishments with less than 75 thermal megawatts, both an environmental permit and a construction permit were to be issued by the municipality.

As of March 2011, 41 ha of the 71 ha land of the Ecofactorij was utilised. The Municipality of Apeldoorn, which foresaw selling 6 ha in 2001, anticipated that by 2015 all the land in the Ecofactorij would be sold. At that point, the Municipality intends to close down the Ecofactorij project and transfer the management of the land to the PMC and of public space (roads, wet areas, etc. within Ecofactorij) to the 'General Service'⁷³ Department of the Municipality.

6.1.1.6 Future of the Ecofactorij policy network

As regards the future of the Ecofactorij policy network, the transformation of the existing network is foreseen. By 2015, the Municipality anticipates that it will have sold all the Ecofactorij plots to private companies and have transferred the management of Ecofactorij entirely to the PMC. This will mean a transformation in the network. Currently, the Municipality of Apeldoorn is in the process of planning Ecofactorij II, a new business park adjacent to the Ecofactorij Business Park, which, however, is seen as a separate project. The Municipality intends eventually to combine the current Ecofactorij with the future Ecofactorij II under the same PMC.

6.1.2 Network shape over the course of the stages of networking

To date, it is 16 years since the formation of the Ecofactorij policy network. During this period, the characteristics of the five stages of networking were displayed: (i) network formation; (ii) network expansion; (iii) network reconstitution I; (iv) network reconstitution II; and (v) network stabilisation. As a matter of fact, each networking stage has not been uniform in itself; rather, there has also been an evolution during each of the networking stages. Over the

⁷¹ The Stedendriehoek Region involves 3 cities, which all together resemble a triangle shape: Apeldoorn, Zutphen and Deventer.

⁷² *Wet Algemeen Bepalingen Omgevingsvergunning*.

⁷³ In Dutch: *Algemene Dienst*.

course of these stages, the shape of the network (treated as being equivalent to the network structure) has evolved as well.

As such, throughout network formation and expansion stages, the shape of the network involved an intra-municipal policy network, which resembled policy community characteristics. However, a clear change can be observed in the composition of the network. There was also a change in the relative position of the actors in the network. In other words, there has been a (more or less) stable number of actors at the core. However, especially during the stages of expansion and first reconstitution, different members joined the periphery, and some of them eventually relocated their position from the periphery to the core of the network. Let us now examine the change and variation in the network shape per stage involved in the networking around the Ecofactorij.

6.1.2.1 Network shape during the network formation stage

The formation stage of the Ecofactorij policy network encompassed the period between 1995 and 1997. In this period, the network shape was established with core actors and a common interest. The policy network started as a small and tight policy community centred on a common interest: developing the Apeldoorn Oost Business Park (the then name of the Ecofactorij). The core of the policy community involved three parties: an intra-municipal sub-network, the Province of Gelderland, and Reesink.

The *intra-municipal sub-network* included three types of municipal actors: the Alderman of Apeldoorn, responsible for Economic Affairs; the Department of Project Development; and the project team of the Ecofactorij. As such, the interest was present at the political level, as the Alderman was in the policy community. In addition, the Department of Project Development was present, as well as a team of experts, representing nine specialised departments of the Municipality. This team started working on a Zoning Plan and a Quality Plan.

In addition to the intra-municipal sub-network, there were two other actors who were involved in the process of network formation: *the Province of Gelderland* which had a say in the regional business park development policy; and a *private enterprise (Reesink)* which favoured the idea of moving into Apeldoorn Oost Business Park (later named the Ecofactorij Business Park), and eventually signed a contract with the Municipality of Apeldoorn.

In the network formation phase, the Ecofactorij policy network was as follows (see Figure 6.3):

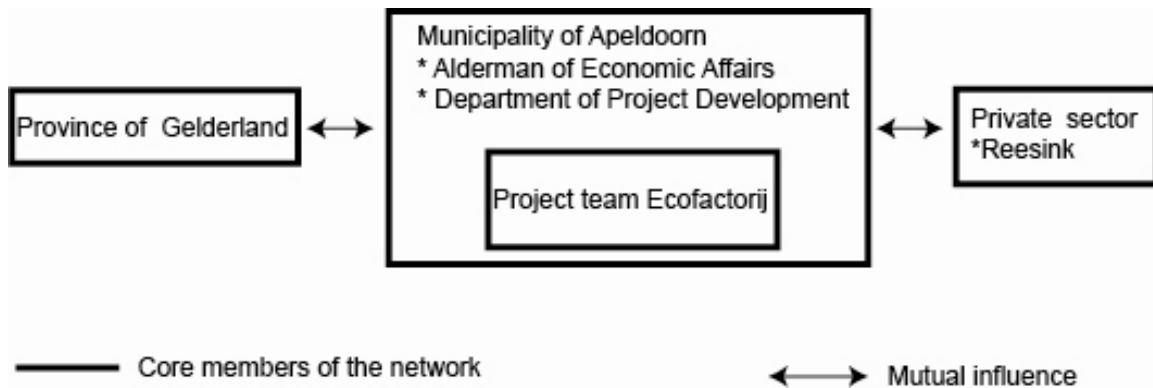


Figure 6.3: Formation of the Ecofactorij Policy Network

The policy network, which qualified as a policy community according to the Marsh-Rhodes continuum, had the following characteristics (see Table 6.2 for a complete overview):

- Membership: There were a limited number of members; who dominantly had economic and professional interests.
- Integration: Integration in the policy network was based on frequent interaction. Continuity in the membership and consensus in the values were evident.
- Resources: The actors had various resources and the relationship between the actors was an exchange relationship.
- Power: There was balance of power among the members of the network. It was a positive-sum game between the Municipality of Apeldoorn and the Province of Gelderland, and between the Municipality of Apeldoorn and Reesink.

The resultant policy outcome of the network formation stage was the decision to develop a business park on the south eastern fringe of the City of Apeldoorn. Especially because the proposed location went beyond the natural border between the urban and rural areas, it was decided that the Apeldoorn Oost Business Park (later named the Ecofactorij) would be developed as a sustainable business park. However, it was decided that the sectoral focus would be on industrial activities, with the exclusion of transport and logistics companies.

Looking back over, the formation stage of the Ecofactorij Business Park was identified with the recognition of two potential factors: The Municipality of Apeldoorn, the Province of Gelderland and Reesink, who soon after formed the basis of the Ecofactorij policy network, recognised the potential for mutual advantage through common action. These actors also recognised the potential for enhancing strategic capacities of each other. By this means, the characteristics of the network were established as a tight policy community.

6.1.2.2 Network shape during the network expansion stage

The expansion stage of the Ecofactorij policy network covered a period of five years, from 1997 to 2001. In this phase, the policy network of Ecofactorij was as follows (see Figure 6.4):

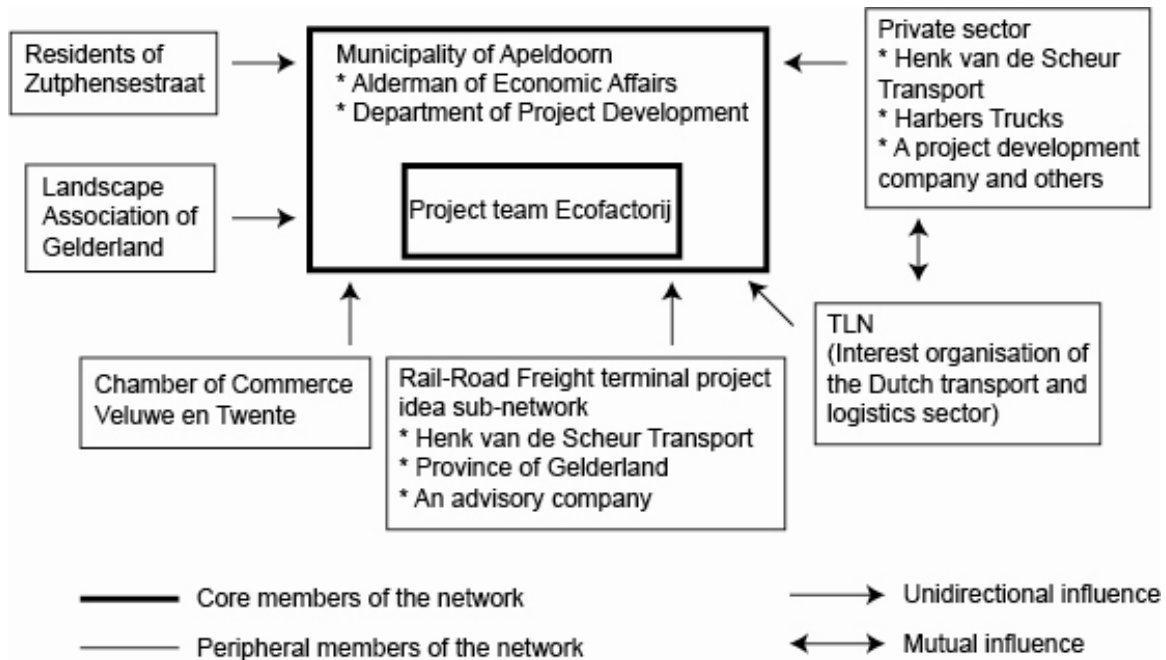


Figure 6.4: Expansion of the Ecofactorij policy network

At first, the policy community characteristics, i.e. a small number of members with a tight membership structure, were preserved. The Municipality was represented by different layers of actors. Membership was limited to the Alderman of Apeldoorn, responsible for Economic Affairs; the Department of Project Development, on the one hand, and, experts from various departments of the Municipality, on the other. As such, the Alderman and the executive civil servants of the Department of Project Development made the relevant decisions about the Ecofactorij, and what the scope of activities in the business park would be. At the same time, a multi-disciplinary municipal team of experts, in cooperation with an advisory company, would accordingly formulate the Zoning Plan and Quality Plan for the business park. The preparation of these documents proved to be the first steps of the institutionalisation process of the Ecofactorij idea, whereby the Ecofactorij became an ambitious sustainable development project of the Municipality of Apeldoorn.

In the second half of the network expansion stage, during the making of the Zoning Plan, there were the first signs of the transformation of the policy network which was shifting from a tight policy community towards the looser end of the Marsh-Rhodes continuum (see Chapter 3). So, while the intra-municipal network

remained at the core, the other actors of the network formation stage, i.e. the Province of Gelderland and Reesink, were no longer there. While the network shape involved a smaller core, numerous peripheral actors appeared, who could be categorised in two groups: (i) those who expressed their opinions during the Zoning Plan formulation (and eventually, revision) such as the Chamber of Commerce, private enterprises, environmental organisations such as the Landscape Association of Gelderland, and the residents living in the vicinity of the Ecofactorij; (ii) other peripheral actors, consisting of the private companies working in the transport and logistics sector, who were interested in relocating in the Ecofactorij. As such, they formed different sub-networks, and approached the Municipality of Apeldoorn at various times. Their aim was to open up the Ecofactorij for transport and logistics activities. This had not, at that stage, been translated into a concomitant policy change, but the nature of the network was definitely shifting away from a tight policy community towards a less tight one.

The policy network at the network expansion stage had the following characteristics (see Table 6.2 for a complete overview):

- Membership: The intra-municipal sub-network at the core was stable with its limited number of members within three layers. However, the Province of Gelderland and Reesink, which were previously at the core, left the network. Eventually two types of actors with different motives joined the periphery of the network. There was one group, who expressed –varying – opinions during the making of the Zoning Plan. And there were others such as the transport and logistics companies which were interested in relocating to the Ecofactorij, but which, however, were not able to because of the sectoral restrictions. While economic and professional interests were in the core of the network, other economic interests and environmental interests existed at the periphery; but none of them were controversial.
- Integration: Integration in the policy network between the core and the periphery of the network varied in frequency. Transport and logistics companies formed various sub-networks and approached the core of the policy network on an ad hoc basis. However, the involvement of the Chamber of Commerce and environmental organisations was synchronised with the Zoning Plan preparations.
- Resources: All the actors had resources and the relationship between the actors was an exchange relationship.
- Power: There was a balance of power among the members of the network. As such, a positive-sum game was evident between the Municipality of Apeldoorn and transport and logistics companies; between the Municipality of Apeldoorn and the Chamber of Commerce; between the Municipality of Apeldoorn and the Landscape Association of Gelderland; and between the Municipality of Apeldoorn and the residents of Zutphensestraat.

The network expansion stage was identified with a number of characterising events: *First*, this was the stage in which the Zoning Plan, *policy instrument*, was drafted and approved in line with the policy objective of developing a sustainable business park. Both the policy objective was defined and the policy instrument was initiated by the core actor of the policy community, i.e. the Municipality of Apeldoorn. *Second*, based on the boundaries, drawn by the objective of a sustainable business park, and the instrument of Zoning Plan, new actors, with own interests and resources, joined the network. They were located at the periphery of the network. These actors introduced new themes in the policy network in line with their interests, by strategically interacting with each other and thus began contributing in the change in the network shape.

6.1.2.3 Network shape during the first stage of network reconstitution

The first reconstitution stage of the Ecofactorij network between 2002 and 2006 was marked by major changes in both the network and the policy outcomes, changes which were interwoven. The changes took place simultaneously with the revision of the Zoning Plan.

The first stage of network reconstitution appeared as the period in which the first revision of the Zoning Plan took place. Accordingly, many actors appeared at the periphery, i.e. transport and logistics companies; the Chamber of Commerce of Veluwe and Twente; and environmental organisations and citizens. As a result, two major policy changes occurred: (i) the inclusion of the transport and logistics sector in the Ecofactorij; and (ii) a particular focus on building height and plot sizes. The reconciliation of these policy outcomes satisfied all the peripheral groups. As such, the Zoning Plan was revised so that the transport and logistics companies began moving into the Ecofactorij, thus, shifting to the core of the network from the periphery. By that time, the Quality Plan had already set the preconditions for industrial activities such as energy exchange and waste management. However, these conditions did not exactly match the profile of the transport and logistics companies. Thus, there appeared to be a gap between what was aimed by the Quality Plan and the practice, since the profile of the companies did not match with industrial ecology principles.

At the beginning of this period, the PMC was co-established by Grolleman Coldstore – the first official company of the Ecofactorij – and the Municipality of Apeldoorn. As a new company joined each time, the PMC expanded. In that sense, the PMC became an official sub-network in itself. This was because membership of the resident companies in the PMC was obligatory according to the Ecofactorij Quality Plan.

The shape of the policy network during the first stage of reconstitution is outlined in Figure 6.5.

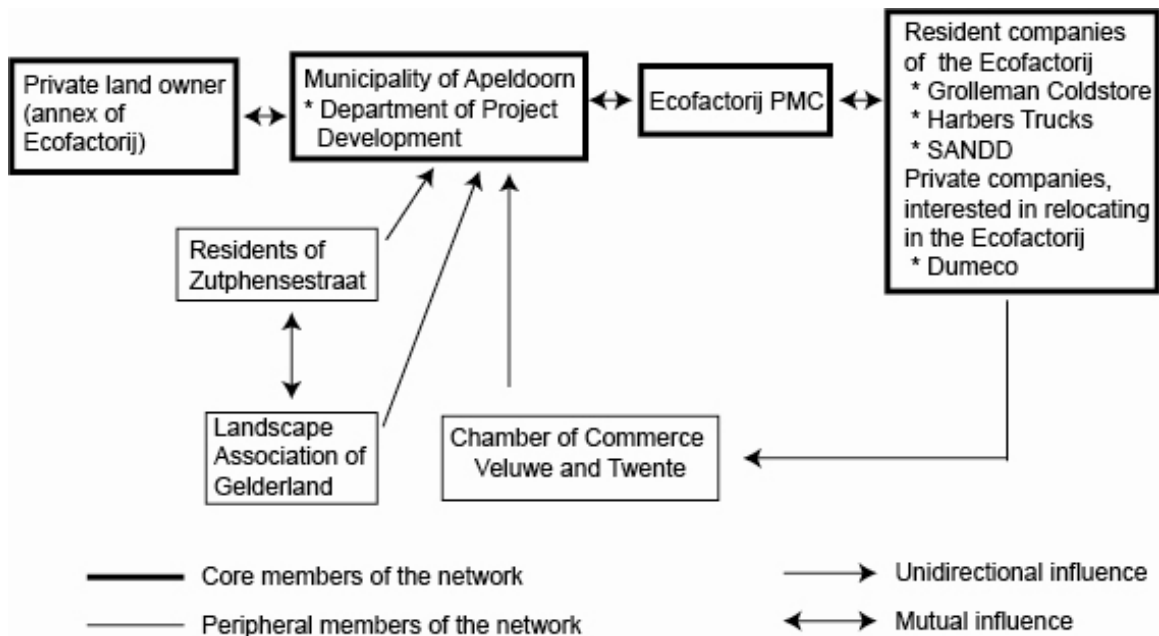


Figure 6.5: The first stage of network reconstitution

In addition, the size of the Ecofactorij expanded by 5 ha with a PPP arrangement between the Municipality of Apeldoorn and the private property owner. Eventually, in the changing circumstances, this extra land was purchased by the Municipality of Apeldoorn. At that stage, the core of the policy community enlarged; various peripheral actors were also added to the network. A remarkable feature of this period was that the lobbying activities of some peripheral actors at the network expansion stage paid off. For example, Harbers Trucks joined the Ecofactorij Business Park; therefore, they shifted from the periphery of the policy community to the core, both as a resident company and a member of the PMC Ecofactorij.

All in all, the policy network in the first stage of network reconstitution had indicated the following characteristics (see Table 6.2 for a complete overview):

- **Membership:** The intra-municipal network was replaced with one municipal actor: the Department of Project Development. However, the core of the network eventually enlarged with the establishment of the PMC as well as with the inclusion of a private land owner and new companies. This meant that the periphery of the network became relatively downsized. However, other actors such as the Chamber of Commerce, the Landscape Association of Gelderland and the residents of Zutphensestraat remained at the periphery. While interests in economic and professional terms were at the core of the network, other economic interests and environmental interests existed at the periphery; however, none of the peripheral interests were controversial.

- Integration: Integration in the policy network between the core and periphery of the network varied in frequency.
- Resources: The actors had resources and the relationship between the actors was an exchange relationship.
- Power: There was a balance of power among the members of the network; and a positive-sum game between the Municipality of Apeldoorn and transport and logistics companies; between the Municipality of Apeldoorn and the Chamber of Commerce; between the Municipality of Apeldoorn and the Landscape Association of Gelderland; between the Municipality of Apeldoorn and the residents of Zutphensestraat.

The first reconstitution stage can be identified, *first*, as the stage in which network expansion started paying off with certain policy changes, desired by the actors, who joined the network periphery in the network expansion stage. Most remarkable change was that transport and logistics companies were allowed in the Ecofactorij. *Second*, a new institutional structure, i.e. Park Management Cooperative (PMC), was established. As there were first few companies joining in, they established the PMC, as required by the Ecofactorij Quality Plan, launched by the Municipality of Apeldoorn. This was a turning point for the policy network to shift back to a tighter network shape and the focus of the network to be centred on the PMC.

6.1.2.4 Network shape during the second stage of network reconstitution

The second stage of reconstitution at the Ecofactorij network between 2007 and 2009 involved more logistics companies moving into the Ecofactorij, which were then involved in the Ecofactorij network; so, in this sense, the network was reconstituted for a second time. On the other hand, this was a stage during which early signs of network stabilisation⁷⁴ emerged, because some of the other actors on the periphery moved to the core of the network. These were the new resident companies in Ecofactorij, who also joined the PMC. In addition, some other actors on the periphery, such as the Chamber of Commerce, environmental organisations, and the residents left the network. This whole process facilitated the moving of the Ecofactorij policy network back towards the tighter policy community end of the Marsh-Rhodes continuum, however with an enlarged membership.

In the second phase of reconstitution the policy network of Ecofactorij was as follows (see Figure 6.6):

⁷⁴ Within the Ecofactorij, it is possible to talk about an independent sub-network around the issue of energy production by poultry manure incineration. Because this issue was remarkably controversial and had its own dynamics, it is examined separately in Chapter 7, as an embedded case study of the Ecofactorij.

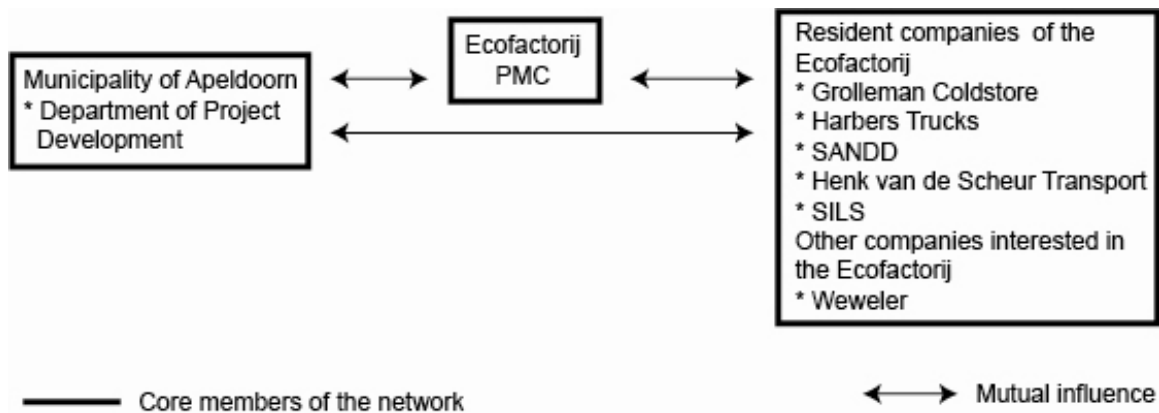


Figure 6.6: The second stage of network reconstitution

The policy network at the second stage of network reconstitution, which could qualify as a policy community according to the Marsh-Rhodes continuum, has the following characteristics (for a complete overview, see Table 6.2):

- Membership: The core of the network became larger, and dominantly had economic and professional interests. The Department of Project Development represented the Municipality at the core, but most of the core members were the resident companies and the PMC to which they belonged. The periphery of the network disappeared at this stage.
- Integration: Integration in the policy network was based on frequent interaction; continuity in the membership and consensus in the values was evident.
- Resources: All actors had resources and the relationship between the actors was an exchange relationship.
- Power: There was a balance of power among the members of the network and a positive-sum game between the resident companies, the Ecofactorij PMC and the Municipality of Apeldoorn.

The second reconstitution stage of the network involved further enhancement and institutionalisation of the changes, which were actively enforced in the first reconstitution stage. Companies who moved in the Ecofactorij in the second reconstitution stage of networking, started further settling down and establishing their activities in accordance with some of the quality conditions of the Ecofactorij Quality Plan, including the ones related to sustainability. Meanwhile, there were some more companies moving in the Ecofactorij and by that means, the PMC was expanding. At this stage, the policy network got back in the policy community shape, centred around the PMC. Within this transformation, the Municipality of Apeldoorn was no longer at the focal point of the policy network. At the same time, the Ecofactorij was ranked in the top-25 business parks of the Netherlands.

6.1.2.5 Network shape during the network stabilisation stage

The Ecofactorij network entered a stabilisation stage in 2010, dominated by a policy community whose members were the PMC, the resident companies in Ecofactorij, and the Municipality of Apeldoorn. However, the network is open to new members, when new resident companies move into the Ecofactorij. So, the network is stable, and outcomes are marked by policy stability, rather than policy change.

The current stage of network stabilisation within the Ecofactorij is outlined in Figure 6.7.

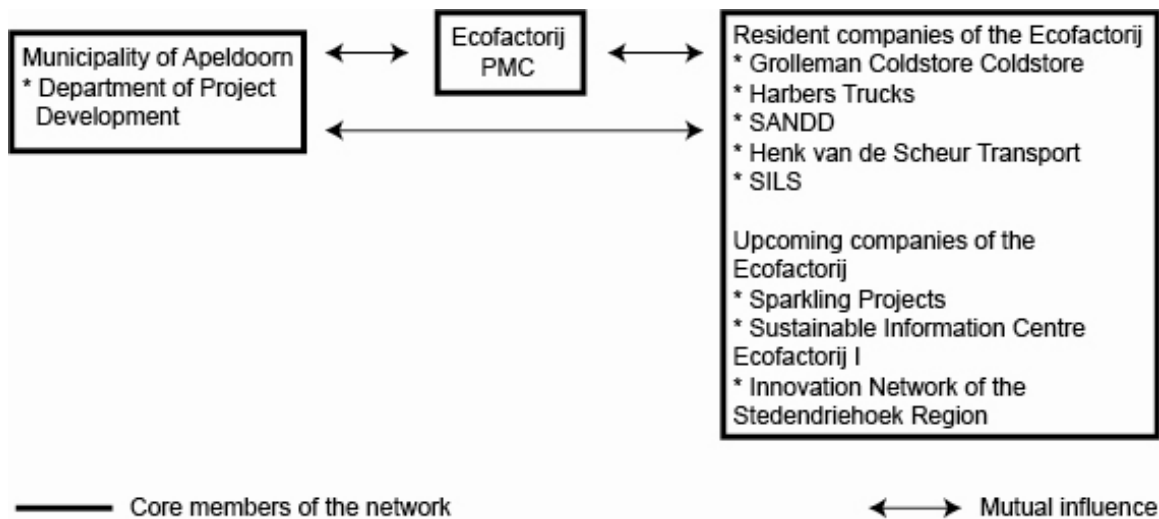


Figure 6.7: Stabilisation stage of the Ecofactorij Policy Network

The policy network at the stabilisation stage, which could qualify as a policy community according to the Marsh-Rhodes continuum, indicated the following characteristics (for a complete overview, see Table 6.2):

- Membership: The core of the network involved the PMC and the resident companies as well as the Department of Project Development. The actors all dominantly had economic and professional interests. The core of the network also became larger with the upcoming companies, which were going to relocate in the Ecofactorij.
- Integration: Integration in the policy network was based on frequent interaction; continuity in the membership and consensus in the values was evident.
- Resources: All actors had resources and the relationship between the actors was an exchange relationship.
- Power: There was a balance of power among the members of the network and a positive-sum game between the resident companies, the Ecofactorij PMC, the Municipality of Apeldoorn and the upcoming companies.

In retrospect, the major feature of the network stabilisation stage is that actors continued with their established patterns of work, which would almost qualify as 'business as usual'. However, some companies get into extra-curricular activities, as defined by the Quality Plan, more commonly, at the individual level. PMC is active with its members as well as keeping in contact with the upcoming companies. However, the concern within the resident companies is to concentrate on their business-as-usual activities whereas the Municipality of Apeldoorn aims at ensuring that the Ecofactorij becomes a fully-occupied and active business park.

6.1.3 Synthesis: Change in the network shape over the course of the stages of networking in the Ecofactorij

The Ecofactorij policy network has had five stages of networking; namely, network formation; network expansion, network reconstitution I; network reconstitution II; and network stabilisation.

The Ecofactorij policy network started as a policy community, involving an intra-municipal network. This intra-municipal network involved three layers, i.e. the Alderman of Economic Affairs, the Department of Project Development and the project team of Ecofactorij. In addition to that, there were two other actors in the policy community: the Province of Gelderland and a private enterprise interested in relocating to the Ecofactorij. The policy community was identified with harmonious economic and professional interests.

In the network expansion stage, the intra municipal network remained in the Ecofactorij policy network; however, the other members of the policy community (i.e. Province of Gelderland and Reesink, a private enterprise) left. Instead, the network expanded with the joining of a number of peripheral actors in the form of sub-networks. This made the network move from the policy community end of the continuum towards the looser end; but not far enough to qualify as an issue network. This was because there were no controversies in the ideas of the peripheral actors. Some of the sub-networks which appeared at the periphery had environmental and economic interests and made an attempt to express opinions in the making and revision of the Zoning Plan. Some of these actors left after Zoning Plan was made and revised; others i.e. transport and logistics companies, who wanted to make a difference in the sectoral composition of the business park, remained. However, once the Ecofactorij was opened up for transport and logistics activities, these companies joined the core of the network by simply relocating to the Ecofactorij. This also brought a shift in the network shape during the first reconstitution stage of network, towards a more tight direction, if not yet back to the policy community shape.

This relocation, which carried on in the second network reconstitution stage, meant a shift back to the policy community end of the Marsh-Rhodes continuum. Network shape in the form of policy community continued during the stage of

network stabilisation. However, the composition of the policy community in these stages was different than that of policy community at the network formation stage. The Park Management Cooperative of the Ecofactorij Business Park and the resident companies played a more active role than the Municipality of Apeldoorn in the last two stages of networking. The policy community at the network formation stage was involved in policy formulation. The transformed policy community at the second reconstitution and stabilisation stages, on the other hand, has primarily been involved in policy implementation, while they were contributing to the modification of other policies.

Table 6.1: Change in the network shape over the course of the stages of networking – part 1 / 3

Stage #	Stages of networking	Shape of the network	Core actors	Peripheral actors
1	Network formation, 1995-1996	Policy community	<p><u>Intra-municipal sub-network (Municipality of Apeldoorn)</u></p> <ul style="list-style-type: none"> - Alderman of Economic Affairs - Department of Project Development - Project team of the Ecofactorij <p>Province of Gelderland</p> <p>Reesink</p>	none
2	Network expansion, 1997-2001	Relatively less tight policy network along the continuum (intra-municipal sub-network at the core together with various peripheral actors)	<p><u>Intra-municipal sub-network (Municipality of Apeldoorn)</u></p> <ul style="list-style-type: none"> - Alderman of Economic Affairs - Department of Project Development - Project team of the Ecofactorij <p>Fibroned BV (for an embedded case study on Fibroned, see Chapter 7)</p>	<p><u>Actors expressing opinions during the public hearing related to the making of Zoning Plan</u></p> <ul style="list-style-type: none"> - Residents of the Zutphensestraat - Landscape Association of Gelderland - Chamber of Commerce of Veluwe and Twente <p><u>Private sector</u></p> <ul style="list-style-type: none"> - Henk van de Scheur Transport - Harbers Trucks - A project development company (both individually and within a sub-network) <p>TLN (interest organisation of the Dutch transport and logistics sector)</p> <p><u>Sub-network based on the rail-road freight terminal project idea</u></p> <ul style="list-style-type: none"> - Henk van de Scheur Transport - Province of Gelderland - A consultancy company

Table 6.1: Change in the network shape over the course of the stages of networking – part 2 / 3

Stage #	Stages of networking	Shape of the network	Core actors	Peripheral actors
3	Network re-constitution I, 2002-2006	Relatively less tight policy network (however, tighter than in the network expansion stage) together with fewer peripheral actors	<p><u>Municipality of Apeldoorn</u> Department of Project Development</p> <p>Private land owner of the annex of the Ecofactorij (Public-private partnership)</p> <p>The Ecofactorij PMC</p> <p><u>Resident companies of the Ecofactorij</u> - Grolleman Coldstore - Harbers Trucks - SANDD</p> <p><u>Private company, interested in relocating to the Ecofactorij</u> - Dumeco BV</p>	<p><u>Actors expressing opinions during the public hearing related to the Zoning Plan revision</u> - Residents of the Zutphensestraat - Landscape Association of Gelderland</p> <p>- Chamber of Commerce of Veluwe and Twente</p> <p><u>Energy related projects</u> Novem - Netherlands Agency for Energy and Environment TNO – Dutch Organisation for Applied (Natural)-Scientific Research Sparkling Projects</p>
4	Network re-constitution II, 2007-2009	Policy community	<p>Ecofactorij PMC</p> <p><u>Resident companies of the Ecofactorij</u> - Grolleman Coldstore - Harbers Trucks - SANDD - Henk van de Scheur Transport - SILS</p> <p><u>Municipality of Apeldoorn</u> Department of Project Development</p> <p><u>Companies, interested in relocating to the Ecofactorij</u> - Weveler BV</p>	none

Table 6.1: Change in the network shape over the course of the stages of networking – part 3 / 3

Stage #	Stages of networking	Shape of the network	Core actors	Peripheral actors
5	Network stabilisation 2010 - onwards	Policy community	<p>Ecofactorij PMC</p> <p><u>Resident companies of the Ecofactorij</u></p> <ul style="list-style-type: none"> - Grolleman Coldstore - Harbers Trucks - SANDD - Henk van de Scheur Transport - SILS <p><u>Upcoming companies</u></p> <p>Sparkling Projects</p> <p>Ecofactorij Sustainable Information Centre</p> <p>Innovation Centre of the Stedendriehoek region</p> <p><u>Municipality of Apeldoorn</u></p> <p>Department of Project Development</p>	none

Table 6.2: Characteristics of the network shape per networking stage according to the Marsh-Rhodes continuum – part 1 / 4

		Networking stages				
		Network formation, 1995-1997	Network expansion, 1998-2001	Network reconstitution I, 2002-2006	Network reconstitution II, 2007-2009	Network stabilisation, 2010 onwards
Network shape characteristics	Membership					
	<i>Number of participants</i>	- Limited number of members - <u>Core members</u> : intra-municipal network Province of Gelderland and Reesink	- <u>Core members</u> : intra-municipal network; stable - <u>Larger periphery</u> : Chamber of Commerce, various transport and logistics companies, the Landscape Association of Gelderland, residents of the Zutphensestraat	<u>Larger core</u> : Department of Project Development (Municipality of Apeldoorn), PMC and the resident companies <u>Smaller periphery</u> : Chamber of Commerce, the Landscape Association of Gelderland, residents of the Zutphensestraat	<u>Large core</u> : Department of Project Development (Municipality of Apeldoorn), PMC and the resident companies	<u>Larger core</u> : PMC; the resident companies; Department of Project Development (Municipality of Apeldoorn)
	<i>Types of interest</i>	Economic and professional interests dominate	Economic and professional interests at the core Environmental and other economic interests at the periphery; however, not controversial	Economic and professional interests at the core Environmental and other economic interests at the periphery; however not controversial	Economic and professional interests	Economic and professional interests

Table 6.2: Characteristics of the network shape per networking stage according to the Marsh-Rhodes continuum – part 2 / 4

		Networking stages				
		Network formation, 1995-1997	Network expansion, 1998-2001	Network reconstitution I, 2002-2006	Network reconstitution II, 2007-2009	Network stabilisation, 2010 onwards
Network shape characteristics	Integration					
	<i>Frequency of interaction</i>	Frequent interaction at the core of the policy community	Varying frequency of interaction between the core and the periphery of the network	Varying frequency of interaction between the core and the periphery of the network	Frequent interaction at the core of the policy community	Frequent interaction at the core of the policy community
	<i>Continuity</i>	Membership, values and outcome persist over time	Membership, values and outcome diverge	Membership, values and outcome diverge	Membership, values and outcome persist over time	Membership, values and outcome persist over time
	<i>Consensus</i>	Basic values shared and legitimacy of the outcome accepted	Basic values shared and legitimacy of the outcome accepted; varying ideas but no controversies	Basic values shared and legitimacy of the outcome accepted; varying ideas but no controversies	Basic values shared and legitimacy of the outcome accepted	Basic values shared and legitimacy of the outcome accepted

Table 6.2: Characteristics of the network shape per networking stage according to Marsh-Rhodes continuum – part 3 / 4

		Networking stages				
		Network formation 1995-1997	Network expansion 1998-2001	Network reconstitution I, 2002-2006	Network reconstitution II, 2007-2009	Network stabilisation 2010 onwards
Network shape characteristics	Resources	<p><u>Municipality of Apeldoorn:</u> - Alderman: political - Department of Project Development: legal and financial - Ecofactorij project team: informational</p> <p><u>Province of Gelderland:</u> political, legal, and financial</p> <p><u>Reesink:</u> financial</p> <p>Exchange relationship</p>	<p><u>Municipality of Apeldoorn:</u> - Alderman: political - Department of Project Development: legal and financial - Ecofactorij project team: informational</p> <p><u>Residents Zuphensestraat:</u> organisational, legal</p> <p><u>Landscape Association of Gelderland:</u> organisational and legal</p> <p><u>Chamber of Commerce:</u> organisational, legal and financial</p> <p><u>Private companies:</u> financial</p> <p>Exchange relationship Consultative relationship</p>	<p><u>Municipality of Apeldoorn:</u> - Department of Project Development: legal and financial</p> <p><u>Private land owner:</u> financial</p> <p><u>Resident companies and potential resident companies:</u> financial</p> <p><u>Residents Zuphensestraat and Landscape Association of Gelderland:</u> organisational and legal</p> <p><u>Chamber of Commerce:</u> financial; organisational, and legal</p> <p><u>TNO</u> Informational</p> <p><u>Novem</u> Informational, financial</p> <p>Exchange relationship Consultative relationship</p>	<p><u>PMC:</u> organisational and financial</p> <p><u>Resident companies:</u> financial</p> <p><u>Municipality of Apeldoorn:</u> - Department of Project Development: legal and financial</p> <p><u>Potential resident companies:</u> financial</p> <p>Exchange relationship</p>	<p><u>PMC:</u> organisational and financial</p> <p><u>Resident companies:</u> financial</p> <p><u>Upcoming companies:</u> Financial</p> <p><u>Municipality of Apeldoorn:</u> Department of Project Development: legal and financial</p> <p>Exchange relationship</p>
	<i>Resources of the actors: authority or legal resources; money or financial resources; political, informational and organisational resources</i>					

Table 6.2: Characteristics of the network shape per networking stage according to Marsh-Rhodes continuum – part 4 / 4

		Networking stages				
		Network formation 1995-1997	Network expansion 1998-2001	Network reconstitution I, 2002-2006	Network reconstitution II, 2007-2009	Network stabilisation 2010 onwards
Network shape characteristics	Power	Balance of power among members. Positive-sum game between the Municipality of Apeldoorn and Province of Gelderland; and between Municipality of Apeldoorn and Reesink	Balance of power among members. Positive-sum game between the Municipality of Apeldoorn and the Chamber of Commerce; Municipality of Apeldoorn and Landscape Association of Gelderland and residents; Municipality of Apeldoorn and transport and logistics companies	Balance of power among members. Positive-sum game between the Municipality of Apeldoorn and the Chamber of Commerce; Municipality of Apeldoorn and Landscape Association of Gelderland, and residents	Balance of power among members. (resident companies, PMC and the Municipality of Apeldoorn) Cooperation for a common goal	Balance of power among members (resident companies, PMC and the Municipality of Apeldoorn) Cooperation for a common goal

The Ecofactorij case

Operationalisation Step 2

Linking the policy outcomes and the policy networks

6.2 Linking the policy outcomes and the policy networks

6.2.1 Introduction

The Ecofactorij idea was developed in order to create a model sustainable business park in Apeldoorn. In fulfilling this policy objective, two major policy instruments were used: the Zoning Plan and the Quality Plan, which set the main contours of the policies made in the Ecofactorij. However, in the course of the planning and development process, there were several attempts, by different actors, to change the policy content. These attempts occurred especially during the making and revision of the Ecofactorij Zoning Plan in order to introduce some changes.

However, the Ecofactorij Quality Plan, which was produced in 2001, has remained the same ever since. But it is arguable whether it is still entirely valid for the current Ecofactorij, especially because it was originally made for the industrial activities; but, later, transport and logistics activities were allowed. As explained earlier (see 6.1.1.2), the Quality Plan, which set the conditions for companies to follow, as well as for the Municipality of Apeldoorn, was launched. However, the Quality Plan was made after Reesink signed an agreement to move into the Ecofactorij. This then caused a legal dispute between the Municipality of Apeldoorn and Reesink. As a result of this experience, the Municipality of Apeldoorn preferred not to make any changes in the original Ecofactorij Quality Plan, even though the sectoral scope changed. This was in order to avoid any legal issues with the other resident companies which could be caused by the varying levels of the quality criteria for different companies. As such, the Quality Plan included certain conditions: But to what extent did they turn into formulated policies? And to what extent were they implemented?

In this section, I elaborate on the policy outcomes related to land-use, energy and transport, which were achieved over the course of the making, revision and implementation of the Zoning Plan and the Quality Plan of the Ecofactorij (*policy instrument*). First, I establish the broader policy context for the Ecofactorij Business Park (6.2.2). The policy context as such involves the national, provincial, regional, and local policy documents which provide a framework in which the Ecofactorij could be embedded. Then, the policy scope of the Ecofactorij Quality Plan, is outlined in detail, including the policy measures set for land use, energy and transport policy (6.2.3). Examining the genesis of the Ecofactorij, I consider what policy outcomes have been achieved along with realising the objective of a sustainable business park, and the implementation of a Zoning Plan and a Quality Plan (6.2.4). Finally, I link policy outcomes to the network shape and the networking stages (6.2.5).

6.2.2 Broader policy context⁷⁵

The Ecofactorij idea arose in a policy context, fed by the national, provincial, regional and local policies.

More specifically, the most directly relevant connection within the *national policy context* came from the Supplement to the Fourth White Paper on Spatial Planning⁷⁶ (Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer, 1996), which indicated that Apeldoorn Oost – among other locations – should be developed as a business park during 1995-2005 in the Stedendriehoek Region. In more generic terms, the national policy context was guided by the background idea of keeping activities such as housing, employment, and services concentrated within the city centres in order to restrict mobility and strengthen urban development.

The national environmental policy plans (1989, 1990, 1993) indicated targets and measures for sustainable development per environmental theme such as agriculture, industry, and transport. The most relevant of these for the Apeldoorn Oost Business Park were related to industry, and traffic and transport. Regarding industry, important points of attention were: the organisation of the company processes in a sustainable way; integrated chain management; and internal environmental management. Regarding transport, important points of attention were using environmentally-friendly vehicles, energy use, and minimising the need for relocation.

Provincial and regional policy involved two major documents. At the provincial level, the Gelderland Regional Plan⁷⁷, launched in 1996, outlined the principles of urbanisation for the provincial areas. In this plan, the cities of Apeldoorn, Deventer and Zutphen were defined together as one urbanisation zone. The City of Apeldoorn, which is the largest of the three cities, fulfilled a supra-regional function.

The other crucial document at the regional level was the Spatial Development Vision for the Stedendriehoek region which was published in 1994. This document was made after the region of Stedendriehoek was identified by the Supplement to the Fourth White Paper on Spatial Planning as a new urban region composed of Apeldoorn, Deventer and Zutphen (in line with the Gelderland Regional Plan). The starting point of this vision was the concept of the compact city, which meant, in the regional context: a bundling of the urbanisation of the three cities; projecting the new residential and work locations in the urban areas or in directly accessible areas; and raising the spatial quality of the urban structures. Thus, the main principles were: restricting the urban development within the urban areas; keeping the distinction between urban and

⁷⁵ Based on the introduction in: Gemeente Apeldoorn. (1999). *Bestemmingsplan Ecofactorij*. Apeldoorn: Gemeente Apeldoorn.

⁷⁶ *Vierde Nota Ruimtelijke Ordening Extra*.

⁷⁷ *Gelders Streekplan*.

rural areas clearly separate; and restricting the growth of car use and promoting the use of public transport and biking. The Apeldoorn Oost Business Park fit within this vision.

The *municipal policy context* delineated the most concrete boundaries for the development of the Apeldoorn Oost Business Park. An overview of the policy documents is provided below, based on the Zoning Plan of Ecofactorij:

The Framework Policy Document of Apeldoorn (1996) established the urban quality vision of the city for 2010. This document made two important points in developing the City of Apeldoorn relating to the proximate city⁷⁸, and the accessible city. The *proximate city* referred to an intricate and equally spread pattern of facilities, without big concentrations in one place. The *accessible city*, on the contrary, would develop along two axes: North-South and East-West, where economic activities were concentrated: along the canal and railways; and along the highway exits and by the station. These axes, in which the activities can later be concentrated, are the carriers of economic functions, and they provide space for more large-scale businesses. Regarding Apeldoorn Oost, the potential exists along the railway line Apeldoorn-Zutphen. This can play a role in rail cargo; and, in relation to passenger transport, offer the possibility of a light rail system.

Perhaps, the most directly influential documents, which outlined and shaped the basic principles of the Ecofactorij were (i) the Economic Development Vision Document (1996), and, attached to it, the Action Programme 'Strengthening Business Activities in Apeldoorn' (1997); and (ii) the document which established the sustainability vision of the city (DAF⁷⁹).

As such, the Economic Development Vision Document (1996) emphasised that the city should profile itself better economically; and the leading sectors should be strengthened. The leading sectors in Apeldoorn were industry, the service sector, and recreation. This document made a specific reference to the Apeldoorn Oost Business Park: regarding its location, the primary emphasis would be on the industrial sector. As well as that, logistics activities would have a secondary, complementary function. In order to strengthen the industrial sector, it was proposed to establish an innovative business park with a focus on 'environment and energy' or 'eco-technology'. The Action Programme '*Strengthening the Business Activities in Apeldoorn*' (1997) was an elaboration of the Economic Vision document. A limited number of business parks need to be open to companies which could contribute to the (economic) development of the city and region. Stated as an important factor – among others – was the quality of the environmental policy and the willingness to invest in sustainable development.

⁷⁸ In Dutch: *nabije stad*.

⁷⁹ *Duurzaam, Aanpasbaar, Flexibel*.

Perhaps the most directly influential document which shaped the basic principles of the Ecofactorij was the DAF document, which prescribed the sustainable, adaptable, and flexible development of Apeldoorn (1997). It involved a practical list of aspects to be considered in implementing sustainability including energy, water, green space, construction material, mobility, and waste. This list provided a point of departure for the development of the Apeldoorn-Oost Business Park.

Let us now turn to the Ecofactorij Quality Plan and examine which policy principles were reflected in the Quality Plan.

6.2.3 Policy scope as indicated by the Ecofactorij Quality Plan

The sustainability perspective of the Ecofactorij was set by the Zoning Plan. This document provides the vision of the Municipality of Apeldoorn for the Ecofactorij. As such, the Zoning Plan indicated the major contours, and the Quality Plan established the quality conditions to be fulfilled by the Municipality and the companies. The Quality Plan used positive economic incentives to bring about a particular type of behaviour in order to reach the objective of sustainability in the Ecofactorij. This involved a land-pricing policy. Resident companies would be rewarded with a discount in land price based on the quality of their environmental performance. Three themes attracted considerable discussion in the planning and design phase of the Ecofactorij: land use; energy; and transport. Three clusters of quality conditions per theme were prescribed (see 6.1.1.2): the first cluster of quality conditions were to be fulfilled by the Municipality; the second cluster of quality conditions by a group of resident companies; and the third cluster of quality conditions by the individual resident companies.

6.2.3.1 Land use

Targets in the land use policy theme were based on two priorities: allocation of plots, and multiple and intensive land use. The second priority concerned building percentages; building height; and the rooftop or underground parking facilities of the Ecofactorij on their own.

Plot allocation

The Municipality wanted to accommodate companies of different sizes; therefore, it offered parcels ranging from 3 to 15 ha for small and medium-sized companies. These parcels were supposed to have good quality connections for cars; cyclists and pedestrians; and rail. In addition, companies could be located near the transport routes depending on their need for freight and passenger transport. Later, with the revision of the Zoning Plan, 1-1.5 ha was allowed in spaces at the corners.

Building percentages

The second cluster of quality conditions makes demands on the companies with regard to the building percentages. The maximum building percentage is 50 per cent and the remaining land would be allocated to pavements and infrastructure

(20 per cent) and to green areas (30 per cent). Furthermore, only companies which joined a ‘chain management’⁸⁰ scheme would be allowed to have plots smaller than 3 ha.

Building height

In terms of multiple land use, there are strict rules about building height. In 25 per cent of the plots, the maximum building height was 20 m although this was only for buildings used collectively: for example, for combined office space or a parking facility. Elsewhere, the maximum allowed height is 12.5 m.

Rooftop or underground parking facilities

The companies which provide parking facilities on the roof or under the premises for a minimum of 50 per cent of their vehicles would be offered some bonus points.

6.2.3.2 Energy

Energy has not only been one of the most highlighted themes of the Quality Plan, but also a policy theme where various ideas – sometimes oppositional⁸¹ – were elaborated. This theme has provided a platform for applying new technology and has involved various actors. The priorities were efficient energy use and promoting sustainable energy sources.

The Quality Plan set out a number of targets for the energy theme (see Table 6.3).

Table 6.3: Energy targets in the Quality Plan

	Efficient energy use	Sustainable energy sources
First cluster of quality conditions (by the Municipality & obligatory)	Using expertise	Biogas Stimulating the use of waste heat Using subsidies
Second cluster of quality conditions (by companies-collectively & obligatory)	Company energy plans	Obligatory reduction
Third cluster of quality conditions (by companies – individually & optional)	Structural reduction	Residual heat Small scale alternative energy sources

Source: Gemeente Apeldoorn (2001) (adapted).

In practice, the energy theme gained most of the attention from both the Municipality and the resident companies of the Ecofactorij. Underpinning the energy issue at the Ecofactorij, there are a number of initiatives which had

⁸⁰ In Dutch: *ketenbeheer*.

⁸¹ See Chapter 7 for the controversial debates on sustainable energy production in the Ecofactorij, by poultry manure incineration.

already taken place independently from the Ecofactorij. For instance, in 1998, the Municipality of Apeldoorn and the energy company X agreed to work together on a sustainable energy project. Based on this broader context, in 2001, the Municipality of Apeldoorn aimed to reach a CO₂-neutral status in its built environment by 2020. This meant that by 2020 the energy consumption would be based on 100 per cent sustainable energy. As an intermediate goal in realising this ambition, Apeldoorn aimed to reach 40 per cent energy-neutrality by 2015 (Gemeente Apeldoorn, 2010:33-35). Overall, sustainable energy sources, such as biomass, sun, wind, etc. fit very well with the sustainable profile that the Municipality of Apeldoorn has pursued⁸². Agreements were signed regarding wind energy and CO₂ reduction by the Province of Gelderland and the Municipality of Apeldoorn.

In practice, the energy theme was realised through a number of projects, such as: the heat-cold storage project and the proposal for wind turbines. Besides that, five companies completed their Company Energy Plans during 2006-2007.

Heat and cold storage project⁸³

The heat and cold storage project was originally not identified in the Quality Plan. The project idea arose as a result of two developments: First, there were delays in the biogas project due to the lack of subsidies; and second, there were ongoing disputes about Fibroned's investment proposal to produce energy by incinerating poultry manure which prevented this proposal turning into a real project. Therefore, the Municipality of Apeldoorn was led to consider alternative options.

However, during 2001-2003, a Novem subsidised research project was conducted by TNO to investigate the possibilities regarding what kind of energy infrastructure would be needed, or be best suited, for the Ecofactorij. This pre-investigation led to phase 2 of the same research during 2004-2007. It appeared that Heat and Cold Storage was the most feasible option. A subsidy of €570,000 was acquired from Novem. This was the first acquisition of the PMC.

As a result of this research project, a demonstration project was conducted in the period between 2004 and 2007 during which a Heat and Cold Storage system was established on the premises of five Ecofactorij companies: Harbers Trucks; SILS; Grolleman Coldstore; Henk van de Scheur; and SANDD. This system was established with Novem subsidies, based on Subsidy Regulation 'Sustainable Energy Netherlands' (DEN⁸⁴) in 2002, and the Decree on Subsidies for Energy Programmes in 2002. The demonstration project was called 'Ecofactorij: *De Bodem als Buffer* (Ground as Buffer)'. This system was originally seen as a collective system for at least 15 companies. However, because the number of companies at the Ecofactorij was much fewer than 15, it was decided to give this

⁸² Source: http://www.apeldoorn.org/webmag/wk16_2000/01.htm

⁸³ *Bodem als Buffer*. This section is based on an interview with Jan de Wit, April 2010.

⁸⁴ *Duurzame Energie Nederland*.

project an immediate impetus rather than waiting for the business park to be further exploited.

As already mentioned, although there was a subsidy available, companies also needed to co-invest. Notwithstanding with this, it could be argued that this was the most concrete and clearly defined target which was achieved within the Energy theme of the Quality Plan.

Private electricity grid⁸⁵

The Ecofactorij PMC established a company called ENEA (Ecofactorij Network Electricity Apeldoorn), and invested in its own private electricity network (Smart Grid) with a bank loan of €1.6 million. This loan was conditionally granted by the bank. As such, every square metre of the Ecofactorij land which was up for sale would generate an income of €4,-. This meant that 40 ha of land needed to be sold in the Ecofactorij in order to cover the costs of this electricity grid. Due to the delay in selling the land, the bank loan was not paid back in time. This has been a serious issue of concern at the PMC⁸⁶. The Municipality of Apeldoorn was requested to provide financial support, but this also was delayed.

Due to the impediments in implementing projects on other sustainable energy sources, this network is not yet being optimally exploited economically and technologically. However, an improvement is expected when the wind turbines start producing electricity.

Wind turbines⁸⁷

There is a broader contextual setting to the use of windmills. In 2001, the national government, the provinces, and the municipalities signed an Administrative Agreement for the National Development of Wind Energy (BLOW⁸⁸). The Province of Gelderland had a minimum target of 100 MW wind power in 2010. By January 2009, only 6 MW of this was realised. Wind-based energy production is in accordance with Apeldoorn's municipal climate policy, which aims for a CO₂-neutral city in 2020.

In early 2000, the possibilities of wind energy in Apeldoorn were advocated by a private company and the Energy Research Centre of the Netherlands (ECN). These parties made a scan of possible locations. As a result, it was decided that some of the wind turbines would be located at the Ecofactorij. Under the scrutiny of the Municipal Department of the Environment, Mobility and Public Space, a meeting was held in April 2000, where village and neighbourhood councils were

⁸⁵ Based on an interview with Aad van Orden, April 2010; and an interview with Albert Kok, April 2010.

⁸⁶ By April 2010.

⁸⁷ Based on 'Gemeente Apeldoorn. (2009). *Bedrijventerrein Apeldoorn-Oost: Ecofactorij, 2^e herziening, Betreft: drie windturbines op bedrijventerrein Ecofactorij, voorontwerp*. Apeldoorn: Gemeente Apeldoorn'.

⁸⁸ *Bestuursvereenkomst Landelijke Ontwikkeling Wind Energie*.

informed about the state of the art and further development of wind energy in Apeldoorn⁸⁹.

The plan involved three wind turbines based in the Ecofactorij and two wind turbines based in its immediate vicinity. These five wind turbines are expected to produce electricity, sufficient for 8000 households in Apeldoorn (i.e. 12 per cent of all the households living in the Municipality). This would mean an approximate 15,500,000 kilos CO₂ reduction per year.

The wind turbines project within, and in the vicinity of the Ecofactorij was approved during the 2nd revision of the Ecofactorij Zoning Plan. However, its implementation was delayed due to the financial and organisational issues of the investing companies. The project was expected to start in 2011. If the subsidy is not provided by the new Cabinet, reaching the climate neutral energy goals of the Municipality of Apeldoorn will be even more delayed.

6.2.3.3 Transport

The Municipality of Apeldoorn dealt with passenger transport issues (as well as freight transport) in the Ecofactorij under the theme of accessibility. Here, accessibility is understood as the extent to which land use and the transport system enables (groups of) individuals or goods to reach activities or destinations by means of a (combination) of transport mode(s) (Geurs & Ritsema van Eck, 2001:36). The passenger transport target group is commuters, and business visitors do not appear within the existing plans.

On the one hand, companies are expected to fulfil a number of obligatory conditions, as laid down in the second cluster of quality conditions of the Quality Plan (2001), and, on the other, they are encouraged to initiate further (optional) actions and cooperate together as described in the third level of quality conditions of the Quality Plan.

The targets for passenger transport were set on the basis of two priorities: creating safe traffic connections; and controlling car mobility (see Table 6.4).

⁸⁹ Information retrieved from: http://www.apeldoorn.org/webmag/wk16_2000/01.htm

Table 6.4: Passenger transport-related targets in the Accessibility theme

	Creating safe traffic connection	Controlling car mobility
First cluster of quality conditions (by Municipality & obligatory)	Measures for motorised traffic Measures for slow traffic	Providing light rail and bus services
Second cluster of quality conditions (by companies, collectively & obligatory)	Providing territorial accessibility of the companies	Implementing parking policy Formulating Transport Management Plan
Third cluster of quality conditions (by companies, individually & optional)	-	Minimising commuter transport

Source: Gemeente Apeldoorn (2001:30) (adapted).

According to the Ecofactorij Quality Plan (Gemeente Apeldoorn, 2001), in order to provide a *safe traffic connection*, the Municipality planned to take action in the fields of *motorised traffic* and *slow traffic*, as outlined in the first cluster of quality conditions. An efficient and safe road network with optimised main and secondary connections was essential for *motorised traffic*. For *slow traffic*, certain safety precautions were considered for bicycles, such as creating car-free bicycle routes, establishing speed limits for cars on roads that are common for bicycles and cars, reserving space for a bicycle tunnel, etc. The second cluster of quality conditions foresaw that each company would, in principle, ensure safe car accessibility in its territory, as well as sufficient space for other modes. No extra activity for companies was defined in the third cluster of quality conditions regarding safe traffic connections.

Several conditions were imposed in order to *control car mobility*. As stated in the first cluster of quality conditions, the Municipality planned to develop a *light rail* system in the medium term (5-10 years) in order to restrict the share of car traffic in the modal split. Since the Municipality is strongly dependent on other parties, such as the government, transport companies, etc. in developing a light rail system, it needs to pay extra attention to accessibility by *bus* in the short and medium term. In this regard, two actions were highlighted. *First*, it is suggested that there should be negotiation with the regional bus company in order to shift the location of a bus stop for a particular bus route nearer to the main entrance of the Business Park. *Second*, it advocated providing a more frequent bus connection during morning and evening rush hours between Apeldoorn train station and the Ecofactorij.

The second cluster of quality conditions described two types of activities for companies in order to control car mobility: implementing a parking policy; and formulating company transport plans. The *parking policy* of the Ecofactorij states that, according to the B-parking norm (of the ABC Parking policy), three parking places were to be provided for every ten employees within the company's space, specifically on the roofs of their buildings. If this norm was not structurally feasible, the PMC could decide to build a central parking facility, where

companies can have a limited number of (paid) parking spaces. Secondly, companies were expected to *formulate transport management plans*, in which issues such as parking and limiting car use to 50 per cent must be mentioned. In this vein, companies were expected to stimulate bicycle use by arranging covered and on-site bicycle parking stalls with shower facilities for at least 50 per cent of their employees. In addition, companies, together with the PMC, can take other precautions such as:

- Organising shuttle services for common use between the Ecofactorij and Apeldoorn train station,
- Rewarding the employees who use public transport (bus and light rail),
- Organising buses for the commuters from Deventer and Zutphen, the two neighbouring cities; and
- Encouraging carpooling and tele-working projects.

The third cluster of quality conditions foresaw that companies alone, or together, would play a role in minimising commuter transport, i.e. if a company – 3 years after its establishment – has made use of less than 90 per cent of its paid parking spaces in the central parking facility, it would receive a certain number of environmental points. Similarly, companies which financially contributed (according to the ratio of their total number of employees) to the establishment of company transport or a shuttle connection, would earn extra points (Saçli, 2004b).

6.2.4 Identifying the policy outcomes

In the earlier sections, land use, energy, and transport related targets of the Quality Plan were identified. To what extent were these targets implemented? Along with the genesis of the Ecofactorij policy network, various policy outcomes were achieved. However, these outcomes were not necessarily in line with the targets identified in the Quality Plan. The policy outcomes appeared in a framework guided by a grand policy objective and two policy instruments.

As such, the grand objective of the Municipality of Apeldoorn was:

... to develop the Ecofactorij as a high value, large scale and sustainable business park.

This policy objective was specific and precise. However, the ways to operationalise this specific and precise goal appeared open to adjustment and interpretation. At first, the Ecofactorij Business Park would have enterprises involved in the activities of Environmental Categories 3 and 4. In the meantime, the sectoral focus was enlarged; it included transport and logistics activities. This had implications for the extent of the sustainability of the business park, because the original idea was to apply the principles of industrial ecology. In this sense,

the objective turned out to be imprecise. Accordingly, some targets of the Quality Plan were either modified or not implemented.

Various policy outcomes were produced related to spatial-economic policy, energy and transport policy. These policy outcomes were largely shaped by the two major policy instruments, i.e. the Zoning Plan and the Quality Plan, used by the Municipality to carry out the Ecofactorij project.

The outcomes related to spatial-economic policy took place within the context of the *Zoning Plan*, a regulatory instrument based on the Spatial Planning Act. The Zoning Plan involved sustainability principles, incorporated in the spatial aspects of business park development. The revision process of the Zoning Plan involved changes in a number of areas such as:

- (i) the enlargement of the sectoral focus by allowing transport and logistics activities;
- (ii) the intensive spatial use and building percentages;
- (iii) the physical expansion of the Ecofactorij with a PPP arrangement.

The policy outcomes related to energy and transport took place rather in the context set by the Quality Plan, with one exception. That is, introduction of the wind turbines project, which was introduced in the 2nd revision of the Zoning Plan.

The *Quality Plan* provided sustainability aspects in the fields of energy and transport (as well as others). It is primarily a regulatory instrument, which also involves the features of a positive economic instrument. It is a regulatory instrument because it imposes sustainability conditions on the companies. At the same time, it is inherently a positive economic instrument because these preconditions propose in return a discount in the land prices for the companies. The Quality Plan, at the same time, puts forward a condition for the resident enterprises to form a Park Management Cooperative (PMC) together with a representative of the Municipality. Following the structure of the Quality Plan (see Box 6.1), policy outcomes were achieved in line with the three clusters, which identified quality conditions for the Municipality and the resident companies of Ecofactorij, both individually and in groups.

On what concerns energy policy, the Heat and Cold Storage project was conducted by the resident enterprises which are subject to the third cluster of quality conditions. In addition, the wind turbines project was launched in the 2nd revision of the Zoning Plan.

When it comes to the transport related policy outcomes, the Municipality of Apeldoorn fulfilled the condition it set for itself in the first cluster of quality conditions: In this respect, it ensured that the road infrastructure at the entrance of Ecofactorij was improved in cooperation with the Directorate General of Public Works and Water Management in order to ameliorate traffic congestion entering

and leaving the Ecofactorij. However, other conditions set in the Quality Plan were not followed as closely; modifications were made in various conditions of the Special Quality Plan: for example, giving a low profile to the implementation of transport targets: e.g. the shift from Company Transport Plans in the Ecofactorij to a Cluster Transport Plan⁹⁰ condition. In addition, there appeared small and fragmented initiatives, leading to an implementation gap; or, there was no implementation at all.

Although not defined under the transport theme, Harbers Trucks took a number of logistics-related initiatives, which fell under the cluster of extra quality conditions in the Quality Plan, which provided flexibility for the enterprises to conduct other sustainable and innovative activities. In this respect, the introduction of a collective Business Building at the Ecofactorij and the provision of complete Truck service, and the introduction of a Certificate of Recognised Sustainability⁹¹ for truck dealers appeared as two additional policy outcomes.

The sustainability questionnaire, which was applied in 2010, indicated that no action was taken regarding the reduction of freight transport. This was especially because rail cargo was not realised as a project. Neither the collective transport of the employees nor the chain management of the waste stream were realised because:(i) interest for collective transport was not sufficient; (ii) the allowed types of business did not facilitate the realisation of exchange of waste streams. Bicycle parking areas were arranged. However, an existing bus stop was removed because there already was a train station in the vicinity. There is not enough supply to justify the provision of a light rail stop at the same location where the train station was located. All in all, only a minimum number of environmental points were collected in the field of traffic and transport.

Currently, Henk van de Scheur Transport and SILS have some carpooling activities. They also have an activity focused on the 'loading factor of the freight trucks'. This idea works on the principle that the trucks are loaded not only on their entry to the Ecofactorij but also on leaving it, when they also need to be loaded. By doing these activities, they receive environmental points. Harbers Trucks provide the truck repair service. The repairman picks up the truck for the repair service in Ecofactorij and brings it back to the client at the end of the day. So, no extra driving is needed.

There were a number of contextual factors, which exerted influence on other policy outcomes. These factors were: the macroeconomic recession and a pig disease epidemic leading to the withdrawal of companies (Weweler and Dumeco), which were interested in relocating in the Ecofactorij; and lack of subsidies which caused a delay in the biogas production project and eventually the start of the Heat and Cold Storage project.

⁹⁰ Shared transport plan for a group of companies, based in the Ecofactorij.

⁹¹ *Certificaat Erkend Duurzaam*.

6.2.5 Synthesis: Linking the policy outcomes to the network shape and networking stages

The policy outcomes, which came about, can be linked to the network shape as well as to the stages of networking. This linkage is evident in three ways: (i) a thematic look at the policy outcomes correlates with the stages of networking; (ii) the major policy outcomes, which are related to the grand policy objective and the two policy instruments, can be associated with the networking stages; and (iii) incremental policy decisions and modifications are related to network shape.

Policy outcomes in a thematic perspective (linked to the networking stages)

From a thematic perspective, the policy outcomes can be linked to networking stages (see Table 6.5 for an overview of the policy outcomes in a thematic perspective in relation to the stages of networking).

It could be observed that the policy outcomes related to spatial-economic policy (such as the types of business activities which are allowed in the Ecofactorij, spatial use percentages and building heights) have been a major concern from the beginning by various actors holding diverging interests. Spatial-economic policy outcomes appeared in the earlier stages of the network, and sometimes diffused to a few subsequent stages such as network formation, expansion, and the first stage of reconstitution – as long as it took for formal decisions to be made.

However, energy and transport related policy outcomes came at a relatively later stage, i.e. the first at the network expansion stage; and the latter at the second reconstitution stage, when compared with the spatial-economic policies. Nevertheless, the nature of the energy and transport-related policy outcomes can be distinguished from each other: the energy priorities, as concretely evident in the national, regional, and local policy context, gained an easy acknowledgement by the resident enterprises of the Ecofactorij. Furthermore, national subsidy options were possible for energy, and the Municipality of Apeldoorn, as a solid partner, supported the energy-related projects.

On what concerns transport-related policy outcomes, the major outcome was stagnating policy decisions and (no-)implementation. There were two major reasons for this: (i) commuter transport is often seen as a subsidiary activity; and (ii) the small number and low density of employees in the Ecofactorij did not create the critical mass to initiate a corporate policy for arranging collective transport. The practice indicated, to a large extent, stagnating policy decisions and implementation, but at the same time there were a few fragmented initiatives, in the case of Henk van de Scheur Transport and SILS Logistics, who initiated carpooling and freight loading systems.

Table 6.5: Policy outcomes in a thematic perspective

Networking stages	Policy outcomes in a thematic perspective		
Network formation	Spatial-economic policy	Energy	
Network expansion			
Network reconstitution I			
Network reconstitution II		Transport	
Network stabilisation			

Policy outcomes in relation with the grand policy objective and policy instruments (linked to the networking stages)

When it comes to the policy outcomes, as guided by the grand policy objective and policy instruments, a clear correlation could be observed between the policy outcomes and the stages of networking (see Table 6.6 for an overview of the policy outcomes guided by the grand policy objective and policy instruments).

As suggested in Chapter 1, there are policy instruments which fit well with the different stages of planning, development and management of a business park. The Ecofactorij case offers a similar synchronisation of policy outcomes and networking stages.

As such, the network formation stage is identified with the grand policy objective of the Ecofactorij: its *raison d'être*, i.e. developing a large-scale, high-value and sustainable business park. The realisation of the grand policy objective remains as the overarching objective throughout all stages of networking. In the network expansion stage, the two major policy instruments, i.e. the Zoning Plan and the Quality Plan, are introduced, which serve to realise the grand policy objective. In the following two stages of network reconstitution, a number of policy outcomes were produced, all related to the revision of the Zoning Plan and the implementation of the Quality Plan. In the first reconstitution stage of the networking, a PMC was established, and a public private partnership structure was initiated related to the physical expansion of the business park. Evidently, the procedures related to the two regulatory instruments (i.e. the Zoning Plan and the Quality Plan) dictate a certain chronological order in producing the major policy outcomes.

Table 6.6: Policy outcomes guided by the grand policy objective and the policy instruments

Networking stages	Policy outcomes guided by grand policy objective and policy instruments		
Network formation	Grand policy objective		
Network expansion		Zoning Plan	Quality Plan
Network reconstitution I			
Network reconstitution II			
Network stabilisation			

Incremental policy decisions (linked to the network shape)

While the realisation of the major policy objective and the implementation of the two policy instruments correspond well with the major contours of the networking stages, interim policy decisions were made and incremental policy changes took place. This type of policy outcomes can interestingly be linked to the variation in the network shape.

As such, there was a particular pattern observed related to the position of the actors, which induced the interim policy decisions and incremental policy change. These actors were often motivated to take such measures because they had issues with certain policy decisions, and they aimed to exert influence to change the policy. As a result, the policy network moved towards a looser direction on the Marsh-Rhodes continuum; thus, away from a small and tight policy community. This move was synchronised with the modifications of the Zoning Plan; and variations in the implementation of the Quality Plan. The composition of the actors in the network at different stages, and their relative position, as distributed between the core and periphery of the network, indicated the following:

- (i) When there were more actors at the periphery, policy outcomes tended to be in the form of *modified policies* or *new policy decisions*: There were two types of peripheral actors, holding different positions: The *first type of actors* led to *policy modification*. This group was composed of those who would leave the network once they had achieved the change in the policy for which they aimed. This happened especially during the procedural steps, such as the formulation and revision of the Zoning Plan. These were the interest organisations, such as the Chamber of Commerce; and environmental organisations, such as the Landscape Association of Gelderland, which left the network upon accomplishing the incremental changes in the policy outcomes such as change in the building height, plot size, etc. The *second type of actors* at the periphery were composed of the transport and logistics companies, who led to a *new policy decision*. That is, during the first revision of the Zoning Plan, they managed to ensure that transport and logistics sector was included in the sectoral composition of the Business Park. As a result, the same actors moved to the core of the network by relocating in the Ecofactorij.
- (ii) When the network moved towards a tight policy community shape with a limited number of members and similar interests, *policy implementation* was more at stake: As such, once the transport and logistics companies relocated in the Business Park, not only did they shift to the core of the policy network, but also they led to an eventual change in the network shape, i.e. back to the policy community. Namely, in the network reconstitution II and network stabilisation stages, they were rather involved in implementing some of the conditions of the Quality Plan (with some modifications) or in some cases, stagnation in policy implementation was evident

Table 6.7: Policy outcomes in relation to the stages of networking and change in the network shape – part 1 / 4

Stage #	Stages of networking	Shape of the network	Core actors	Peripheral actors	Policy outcomes
1	Network formation, 1995-1996	Policy community	<u>Intra-municipal sub-network (Municipality of Apeldoorn)</u> -Alderman of Economic Affairs -Department of Project Development -Project team Ecofactorij - Province of Gelderland - Reesink	none	Grand policy objective: the Ecofactorij: a high value, large-scale, and sustainable business park
2	Network expansion, 1997-2001	Relatively less tight policy network	<u>Intra-municipal sub-network (Municipality of Apeldoorn)</u> -Alderman of Economic Affairs -Project team Ecofactorij -Department of Project Development Fibroned BV*	<u>Actors expressing opinions at the public hearing for the Zoning Plan</u> - Residents of the Zutphensestraat - Landscape Association of Gelderland <u>Individual private companies</u> -Henk van de Scheur Transport -Harbers Trucks -Van Vemde project development Chamber of Commerce TLN <u>The sub-network based on the rail-road freight terminal project idea</u>	<u>Launching of the major policy instrument 1: Zoning Plan</u> <u>Launching of the major policy instrument 2: Quality Plan</u> Contest: the name Ecofactorij SoPaG symposium Reesink leaves the policy community Lobbying of the peripheral actors Heat and Cold Storage project – research phase - started in 2001

Table 6.7: Policy outcomes in relation to the stages of networking and change in the network shape – part 2 / 4

Stage #	Stages of networking	Shape of the network	<u>Core actors</u>	<u>Peripheral actors</u>	<u>Policy outcomes</u>
3	Network re-constitution I, 2002-2006	Relatively less tight policy network (tighter than the network in the expansion stage)	<p><u>Municipality of Apeldoorn</u> - Department of Project Development</p> <p>Private landowner of the Ecofactorij annex (Public-private partnership)</p> <p>Ecofactorij PMC</p> <p><u>Resident companies of the Ecofactorij</u> - Grolleman Coldstore - Harbers Trucks - SANDD</p> <p><u>Private company, interested in relocating in the Ecofactorij</u> - Dumeco BV</p>	<p><u>Actors expressing opinions during the public hearing related to the Zoning Plan revision</u> -Citizens of the Zutphensestraat -Landscape Association of Gelderland of</p> <p>-Chamber of Commerce of Veluwe and Twente</p> <p><u>Energy related projects</u> Novem TNO</p>	<p><u>Policy outcome originating from the Quality Plan</u> Establishment of the PMC in 2003</p> <p>Logistics Service Centre of Harbers Trucks (2006)</p> <p><u>Policy outcomes originating from the broader context</u> Dumeco not able to move in due to a pig disease epidemic (broader context)</p> <p><u>Policy outcomes which arose as a result of the revision of the Zoning Plan (1st revision 2006)</u> * spatial-economic policy: enlargement of the sectoral focus by allowing transport and logistics activities planning;</p> <p>* change in the intensive spatial use and building percentages;</p> <p>Physical expansion of the Ecofactorij with a PPP construction;</p> <p>Heat and Cold Storage project – demonstration phase - started in 2001</p> <p>Transport-related policy outcomes</p>

Table 6.7: Policy outcomes in relation to the stages of networking and change in the network shape – part 3 / 4

Stage #	Stages of networking	Shape of the network	Core actors	Peripheral actors	Policy outcomes
4	Network re-constitution II, 2007-2009	Policy community	<p>Ecofactorij PMC</p> <p><u>Resident companies of the Ecofactorij</u></p> <ul style="list-style-type: none"> -Grolleman Coldstore -Harbers Trucks -SANDD -Henk van de Scheur Transport -SILS <p><u>Municipality of Apeldoorn</u></p> <ul style="list-style-type: none"> - Department of Project Development <p><u>Private company, interested in relocating in the Ecofactorij</u></p> <ul style="list-style-type: none"> -Weveler BV 	none	<p>Weweler not moving in 2008 due to economic recession (broader context)</p> <p>Zoning Plan (2nd revision in 2009)</p> <p>Wind turbines</p>

Table 6.7: Policy outcomes in relation to the stages of networking and change in the network shape – part 4 / 4

Stage #	Stages of networking	Shape of the network	Core actors	Peripheral actors	Policy outcomes
5	Network stabilisation, 2010 -	Policy community	<p>Ecofactorij PMC</p> <p><u>Resident companies of the Ecofactorij</u></p> <ul style="list-style-type: none"> -Grolleman Coldstore -Harbers Trucks -SANDD -Henk van de Scheur Transport -SILS <p><u>Upcoming companies</u></p> <ul style="list-style-type: none"> - Sparkling Projects - Ecofactorij I <p>Sustainable Information Centre</p> <ul style="list-style-type: none"> - Innovation Network of the Stedendriehoek Region <p><u>Municipality of Apeldoorn</u></p> <ul style="list-style-type: none"> - Department of Project Development 	none	<p>Questionnaire to the resident companies about sustainability in the Ecofactorij, 2010</p> <p>Work on the new Zoning Plan 2010</p> <p>Decision not to change the Quality Plan, 2010</p> <p>Harbers Trucks applying for Certificate of Sustainable Trucking</p> <p>Sustainable Information Centre Ecofactorij</p> <p>Sustainable building</p>

The Ecofactorij case

Operationalisation Step 3

**Analysis of the dialectical relationships
underlying each policy outcome**

6.3 Analysis of the dialectical relationships underlying each policy outcome

6.3.1 Introduction

This section focuses on the policies which have been produced and reproduced along with the genesis of the Ecofactorij Business Park. As such, the Municipality of Apeldoorn's initiative to develop the Ecofactorij Business Park was led by a major *policy objective*: that was 'developing a sustainable business park'. In fulfilling this objective, the Municipality utilised two *policy instruments*: the Zoning Plan and the Quality Plan.

The Zoning Plan of the Ecofactorij is a *regulatory instrument*, as required by the Dutch Spatial Planning Act, which sets out the functions allowed in the business park. It regulates which types of activities can take place on the land; and the physical use of the land, such as plot sizes, building height, and characteristics. During the making and revision of the Zoning Plan, external parties such as other governmental bodies, interest organisations, NGOs, and citizens, can express their opinion and influence the decisions. The Quality Plan is the second major *regulatory instrument*, used by the Municipality of Apeldoorn. It is not a legal document by nature, but it provides a blueprint for the Municipality and the resident companies of the Ecofactorij, which specify which actions need to be taken by them, individually or in groups, to realise the goal of sustainability in the Ecofactorij.

In this section, how certain policy outcomes come into existence is examined. The other policy outcomes have already been identified in Section 6.2.4, in relation to the guidance of the major *policy objective* and the two *policy instruments*. Other policy outcomes vary as interim/incremental policy decisions, modified policies and sometimes no-implementation. Each identified policy outcome is analysed as to determine what dynamics play an underlying role; such as how, and to what extent, different levels of dialectical relationships between the network agency, network structure, the broader context, and the other policy outcomes play a role in the formation of each identified policy outcomes. The section closes with a synthesis of the dialectical relationships that underlie each policy outcome, as informed by the revised version of the dialectical model of the policy networks.

6.3.2 The policy outcome related to the grand policy objective

The Ecofactorij: A sustainable business park in Apeldoorn?

We need to put the Ecofactorij in its historical *broader context*. Initially, the objective of the Municipality of Apeldoorn was to develop a regional business park with transport and logistics companies on the site of the Ecofactorij. However, the citizens were concerned about the disruption of natural areas since

the Ecofactorij site was on the boundary of the urban and rural areas. The Municipality also had concerns about maintaining this boundary. Meanwhile, in consultation with the Province of Gelderland, another location was designated for logistics activities. The municipality therefore then decided to dedicate the area of Ecofactorij to the development of a sustainable business park, which would follow the principle of industrial ecology. This was a way to make it an acceptable plan since it was not only a strategic but also a sensitive location.

At the point of making and approving the Zoning Plan, in which the Municipality formalised the idea of a sustainable business park based on the principles of industrial ecology, various actors raised their voice during the City Council discussions. On the one hand, the Chamber of Commerce of Veluwe and Twente, was concerned from an economic point of view: their main argument was that the sustainability conditions imposed by the Municipality would hinder the market demand for the business park. On the other hand, civil actors, such as the Landscape Association of Gelderland and the residents living in the vicinity of Ecofactorij, expressed their concern in relation to the local environment and quality of life issues. In this way, they were able to exert pressure on the decisions, given their large number of members.

The Municipality of Apeldoorn, which ironically seemed to be both the supporter *and* the opponent of economic and environmental concerns raised by the other actors, in fact shared the same concerns. The Municipality wanted both to promote investment within the municipal boundaries and to preserve the environment.

As a matter of fact, the dual role of the Municipality reflected an ongoing, if implicit, dichotomy, at the national level between the economic development and the sustainability paradigms. In the light of this broader context, there was an attempt by the Municipality to negotiate its dual role, which was due to its structural position. The Ecofactorij as a sustainable business park with industrial ecology principles, was one way for the Municipality to compensate in environmental terms for developing a business park in the green area outside the urban boundaries. To achieve this outcome, the *resources* of the Municipality were mobilised. As such, the Alderman of Economic Affairs exercised his *political power* to create a model sustainable business park. The Municipality used its *expertise* by forming a special municipal expert team, dedicated to planning and developing the Ecofactorij. At the same time, the Municipality owned the land of the Ecofactorij. Land ownership, as a *financial resource*, reinforced the Municipality's position in pursuing its policy objective of developing a sustainable business park. It was also a *strategic action* by the Municipality in order to strengthen its green image.

In the end, the Zoning Plan, which was first approved in 2000 and, finally, after revisions, in 2006, reflected a number of changes. These changes took place as a result of the dialectical interaction between a number of variables. All in all, one

could observe that the role of the *resources* of the Municipality, on the one hand, and its *strategic action*, on the other, continuously interacted with the strategic actions of other actors and the broader context, and led to the introduction of a new policy objective: that is to say, the Municipality had the *political resources*, because of its democratic mandate, together with the *financial resources* including ownership of the land originating from its budget as a governmental organisation. It made use of its structural resources and acted strategically to initiate and develop the Ecofactorij as a sustainable business park. Working within numerous conditions set by the Municipality, various actors reacted strategically by trying to influence and/or change these conditions. At the same time, the macroeconomic circumstances almost mandated a more efficient use of space and less strict conditions in order to attract business, and provided a *broader context* that the Municipality needed to take into consideration. The outcome of this whole interactive process was that the Municipality initiated a new policy objective, deviating from its 'business-as-usual' policy regarding business parks and focusing on the case of the Ecofactorij as a model sustainable business park. This was indeed the first policy outcome, where the story began.

6.3.3 Outcomes related to spatial-economic policy

6.3.3.1 The sectoral focus: Is there any place for the transport and logistics companies in the Ecofactorij?

The sectoral focus of the Ecofactorij Business Park has long been debated and subject to change. In the early 1990s, the initial objective of the Municipality of Apeldoorn, together with the Province of Gelderland, was to develop the premises of the current Ecofactorij as a regional business park. This was because this location had good highway connections. Both the Municipality and the Province considered that this business park would accommodate companies (e.g. those in Environmental Categories 4 and 5; and transport and logistics companies) which should not be based in the inner city, in large part because they need more space due to the nature of their activities. The discussions regarding the sectoral focus were closely linked to the emergence of the Ecofactorij, because, in a way, it was the rationale for starting up a new business park. It was the *agency* of the policy network: namely, the Municipality of Apeldoorn, as the core *network actor*, and the Province of Gelderland, as the actor who had an influential role in shaping the broader context, which established the very idea of the Ecofactorij and the first steps in its planning.

The first wave of change came in 1995 and 1996. The Municipality's decision about the Ecofactorij was viewed as a new approach in the town: a variation of the principle of mixed land use in the urban areas, i.e. keeping residential and working areas in the town. The location of the Ecofactorij, in the green area outside the urban boundaries, raised some environmental concerns among the NGOs and citizens. Eventually, the Municipality of Apeldoorn came up with the idea of the Ecofactorij as a sustainable business park. This idea brought about an

alteration in the sectoral focus: from a mixed business park including transport and logistics activities to an industrial park, since the industrial sector would better serve the idea of exchange of waste and energy streams. This change in the policy objective was evidently shaped by three factors: (i) the decision to establish a logistics park elsewhere in the city (within the broader policy context as also influenced by the Province); (ii) pressure from NGOs and citizens with environmental concerns; (iii) the reaction by the Municipality to reconcile two conflicting interests, i.e. the economic and the environmental. The actors within the policy network strategically acted to change the circumstances, which were partly imposed by the *policy context* and partly a spin-off of *agency interaction*.

The emergence of the Ecofactorij idea and its sectoral focus took place in a dynamic context. A second wave of change came about during 2002-2006 and indicated a change in the sectoral focus of the Ecofactorij, i.e. transport and logistics companies would be allowed to locate in the Ecofactorij. There were a number of underlying reasons. *First*, the *strategically selective context*, shaped by the Province, formed the background of the change. The Province's idea to develop a regional transport and logistics park elsewhere did not work out, and therefore, the possibility for a regional business park remained on the cards. The Ecofactorij could therefore be developed as a regional business park. *Second*, industrial companies had not yet shown much interest in settling down in the Ecofactorij, which was already open for the market demand. Overall, economic trends, as part of the broader context, also played a role. Hence, the economic slowdown, and the general reluctance of companies to move, meant that the Ecofactorij was not received with as much enthusiasm as expected by the industrial companies. *Third*, transport and logistics companies expressed their interest in locating in the Ecofactorij, which at that time was not possible because of the focus on the industrial sector. The Chamber of Commerce of Veluwe and Twente supported these companies and exerted pressure on the Municipality to modify its decision and shift back to allowing transport and logistics companies within the Ecofactorij. In a strategically-selective context, with pressure of the broader (economic) context, actors, such as transport and logistics companies and the Chamber of Commerce, manoeuvred in order to change the sectoral focus in line with their own interests. The Municipality, the *core actor* within the network, reacted by modifying the plan. The final outcome was a change in the sectoral focus, ending up where the story of Ecofactorij had begun, given that it would be developed as a 'sustainable business park' based on underlying industrial ecology principles *including* (emphasis added) transport and logistics activities. This decision had further influence on the reconstitution of the Ecofactorij policy network during the second half of the 2000s. Logistics and transport companies began moving into Ecofactorij and, consequently, changed the sectoral profile of the Ecofactorij.

Overall, it could be argued that the emergence and the setting up of the basic contours of the Ecofactorij had already created a situation in which dialectical relationships could take place between the network *agency* (Municipality,

Province, Chamber of Commerce and transport and logistics companies), its *strategically selective context* (an inclination towards opening up for transport and logistics activities in the Ecofactorij), and the *broader context* (economic slowdown and the companies' overall reluctance to move), resulting in a change in the sectoral focus (inclusion of transport and logistics activities in the Ecofactorij). The change in the sectoral focus was accompanied by a change in the network structure. That is, the network shape gained a looser structure when efforts were made in order to integrate transport and logistics sector; and this led into the policy community structure when the sectoral focus was enlarged.

6.3.3.2 Change in the intensive spatial use and building percentages

Before the Ecofactorij idea was formalised, the Municipality of Apeldoorn was already having talks with Reesink, who wanted to relocate in the Business Park. In 1997, the Municipality agreed with this company on a building percentage of 80 per cent, in line with the intensive spatial use principle. During 1998 and 2000, when the idea of developing a sustainable business park emerged, there was a shift towards the principle of non-intensive spatial use, led by the Municipality, which aimed to decrease the allowed building percentage to 40 per cent, and this was the beginning of the legal problems between the Municipality and Reesink. The change in the building percentage was initiated by the Municipality which wanted to maintain a green image. However, it was debatable whether this decision was entirely environmentally-friendly. While a lower building percentage strengthened a 'green' image, the idea was not overall in line with sustainability since low density spatial use – in the urban planning context - brought with it other environmental issues, such as suburbanisation, increased car mobility, etc. Ultimately, with the final decision of the Municipality (approved in 2000), the building percentage within Ecofactorij was set at 50 per cent (with the exception of Reesink, who had 80 per cent) (Gemeente Apeldoorn, 1999).

However, throughout this period, different voices were raised against the decision of the Municipality. There was a continuous feedback from the Chamber of Commerce and private companies who were in favour of a higher density of spatial use in Ecofactorij. At the same time, environmental NGOs also raised their voice, taking the same position, but on the basis of environmental concerns. They demanded that the building percentage should be 75 per cent for the whole business park. In order to defuse this resistance, the Municipality decided to change the conditions on building heights, rather than on the building percentages: instead of an average building height of 20 m, it allowed buildings of 30 m provided that they did not occupy no more than 25 per cent of the plot. This could be interpreted as a *concession* to meet the market demand. The Alderman of Apeldoorn, responsible for economic affairs, supported this concession because he was strongly committed to the 50 per cent building percentage. Grolleman Coldstore, one of the resident companies in the Ecofactorij, and the Chairman of the Ecofactorij PMC, seemed to accept the 50 per cent rule at the time (2005), with the intention of raising the building

percentage to 60 per cent by lobbying with future residents of the Ecofactorij⁹² (Interview with Dick Grolleman, April 2005). This was clearly a *strategic intention* of Grolleman Coldstore.

Another issue concerned the minimum plot sizes of 3 ha. The Chamber of Commerce was in favour of a smaller plot size so that smaller companies could also be accommodated. In the face of the request by the Chamber of Commerce and low market demand for Ecofactorij plots, the Municipality decided to decrease the minimum plot size from 3 ha to 1 ha. Therefore, companies interested in smaller plots could also get into the Ecofactorij.

In particular, the discussion about the building percentage issue took place in an arena where different paradigms competed with each other. As such, lower building density was in accordance with the green image that the Municipality wanted to preserve for the Ecofactorij, while higher building density would satisfy the Chamber of Commerce and the commercial companies, in economic terms, and the NGOs and environmental organisations, from a sustainability perspective.

As regards these ever-changing policy outcomes, it could be observed that there was an ongoing erosion of the Ecofactorij's ambitious principles for sustainability. They were constantly being curbed in order to find the middle way between Municipal goals (which were a product of *the broader context, structure and agency*) and market demand (*broader context and agency*).

6.3.3.3 Introduction of a Quality Plan for the Ecofactorij and introduction of a land price policy

As we saw, the decision of the Municipality to develop the Ecofactorij as a sustainable business park was triggered by the political power of the Alderman of Apeldoorn, responsible for Economic Affairs, and the green image to which the Municipality aspired. The green image was partially imposed by the sustainability paradigm evident in the broader context of national policy. This was taken to the next level by the Municipality when it introduced a 'Quality Plan for the Ecofactorij'. This was different from the routine procedure implemented for Apeldoorn's other business parks, which were required to make a Visual Quality Plan⁹³. The Ecofactorij Quality Plan identified the most important themes for sustainability and related targets. Furthermore, this plan laid down quality conditions in three clusters: the first cluster of quality conditions were to be fulfilled by the Municipality; the second cluster by the companies which wanted to relocate in the Ecofactorij; and, finally, the third cluster involved a bonus system, which aimed to reward the companies for any extra sustainable activities. This system was the product of Municipal *action* (backed up by its *structural*

⁹² It was not possible to meet Dick Grolleman in 2010 in order to discuss this and other issues.

⁹³ *Beeldkwaliteitsplan*.

resources). This plan involved a land pricing policy. The more companies could fulfil the conditions, the more financial rewards they would receive.

As a new policy instrument, the 'Ecofactorij Quality Plan' was initiated by the Municipality of Apeldoorn, who had *political, financial and informational resources*, such as land ownership, finance, expertise, and political power. However, this did not guarantee an immediate success by attracting clients. Some conditions of this Quality Plan were resisted by other actors, such as private companies, the Chamber of Commerce, NGOs and citizens. They, in return, reacted *strategically* to a number of conditions related to land use, energy and transport. These actions resulted in modification of the conditions; or caused an implementation gap, or led to no implementation at all.

While regular business parks are expected to fulfil a Visual Quality Plan, the Ecofactorij Quality Plan was something new in the municipal policy context. It involved a number of thorough and intensive measures in order to reach the level of sustainability to which the Municipality aspired.

6.3.3.4 Physical expansion of the Ecofactorij involving public private partnership as a new instrument

The physical expansion of the Ecofactorij was triggered by the proposal of a private property owner, who owned 5 ha land adjacent to the Ecofactorij, and wanted to co-develop this land with the Municipality. There was a clear motivation for the strategic intervention of the land-owner as a peripheral actor, who eventually became a core actor. This proposal obviously fitted with the Municipality's spatial-economic objectives, and so it was seriously considered by the Project Development Department of the Municipality of Apeldoorn. However, this issue created a dispute within the Municipality's project team for the Ecofactorij. The representative of the Department of the Environment in the project team objected to the idea of this enlargement, given its environmental concerns. This disparity was quickly resolved when the Department of Project Development committed to pay financial compensation to the Department of the Environment. The Municipality's *strategic calculations* meant a Public-Private Partnership agreement was signed between the two parties, which led to the *inclusion of a peripheral actor* in the policy network. However, the death of the landowner, which could be seen as an external constraint, put an end to this partnership agreement. In the changed *strategically selective context*, the Municipality bought the land; thus, the PPP was dissolved. However, the physical expansion of the Ecofactorij has remained as the outcome of this process.

6.3.4 Establishment of a Park Management Cooperative

Quality Plan, launched by Municipality of Apeldoorn, involved a condition of establishing a Park Management Cooperative (PMC). At the background of PMC lies *agency* (Municipality of Apeldoorn) and structural resources to initiate the

Quality Plan with various conditions. With the joining of Grolleman Coldstore in 2003, as the first official company of the Ecofactorij, which was bound to the Quality Plan, the PMC was founded. Later, new residents of the Ecofactorij joined the PMC. Additionally, the Municipality of Apeldoorn was represented in the PMC. The responsibilities of the PMC include increasing the level of sustainable energy in the business park; common purchase of goods and services; and the reuse of water and resources. All the sustainability-related ambitions of the Municipality are guaranteed and stimulated by the PMC.

6.3.5 Policy outcomes related to energy

Heat and Cold Storage project

There were two external constraints in the background of the Heat and Cold Storage project. These constraints were related to the delay in the two other energy-related projects: (i) the project idea of biogas production, which was hindered by the lack of a national subsidy; and (ii) energy production by poultry manure incineration, which was delayed as a result of lengthy appeal procedures. In response to this situation, the Municipality of Apeldoorn came up with the idea of introducing a Heat and Cold Storage facility as a new policy instrument.

As such, the Heat and Cold Storage project was supported by a national subsidy of €570 million, and technical expertise was provided by TNO in the research phase. As well as the national subsidy, resident companies also needed to invest, thus making use of their own resources. The quality condition as put forward by the Ecofactorij Quality Plan was realised by the resident enterprises of the Ecofactorij, which made use of resources such as finance (national subsidy and own investment) and expertise (as externally hired).

Wind turbines

The introduction of wind turbines in the Ecofactorij represents the interaction between a number of variables within the dialectical model. The broader context provided the background to this new initiative. So, the sustainable energy theme evident in the Municipal policy agenda and the Administrative Agreement for Rural Development (BLOW) facilitated the Municipality of Apeldoorn, ECN (Energy Centre of the Netherlands), a private company and the village and neighbourhood councils to become involved in this idea; and they explored and discussed the possibilities. Developing wind turbines in the Ecofactorij brought a change in the Zoning Plan, which is an element contributing to the institutionalisation of the network structure.

6.3.6 Policy outcomes related to transport

Improvement of road infrastructure at the entrance to the Ecofactorij

The resident companies of the Ecofactorij had complaints about the congestion at the entrance to the business park. In order to address this problem, a lane⁹⁴ leading to Zutphensestraat was constructed at the Ecofactorij and completed in 2009. The introduction of this new policy instrument was due to the *strategic actions* of the *agency* of the network. The Municipality was crucial here as the initiator of the Ecofactorij idea, but the companies speeded up the process by expressing their dissatisfaction. As a result, the Province of Gelderland, holding structural power in Zutphensestraat, as the owner and administrator of the road, decided to initiate an infrastructural solution.

Implementation of transport targets on a low profile

The Ecofactorij Quality Plan indicated that a number of measures on accessibility should be taken (these were extensively reviewed in 6.2.3.3). However, it proved hard for the Ecofactorij companies to follow all these measures for various reasons: *First*, the relative delay in companies moving into the Ecofactorij and, *second*, the low-labour intensity of the existing companies hindered the implementation of passenger transport measures, since there was not the minimum number of passengers needed to modify the provision of more public transport services. Consequently, formulating a transport management plan was later made flexible. As such, the quality condition involved a shift from company transport plans to a cluster transport plan (for more details, see below).

This policy change was triggered by the inertia in the development of the Ecofactorij Business Park, which was, to a large extent, imposed by the broader context. As such, the more companies were delayed in moving into the Ecofactorij, the longer it took adopting transport measures seriously. This led to the change towards taking more flexible measures, as a result of the broader context (i.e. the economic recession), the network structure, involving a limited number of companies, and agency, particularly the actors' perception of commuter transport as subsidiary to their main economic activities.

With respect to freight transport, the rail cargo idea, mentioned in the Quality Plan (Gemeente Apeldoorn, 2001: 34-35) was not realised. A project developer did research about the project idea, and it appeared that the project was too small to be profitable. Originally, the idea was that the municipality would facilitate the rail cargo activity but it never happened.

From a Company Transport Plan to a Collective Transport Plan

According to the Ecofactorij Quality Plan, it was a condition that each company would develop a company transport plan. This plan would reduce car use by 50 per cent. To achieve this, companies are expected to stimulate bicycle use by

⁹⁴ In Dutch: *invoegstrook*.

arranging covered and on-site bicycle parking stalls with shower facilities for at least 50 per cent of their employees. However, the condition of a 'company transport plan' was abandoned because a critical mass to promote alternative forms of mobility could not be created. There were a number of reasons for this: *first*, there was difficulty in selling the land, with low market demand for Ecofactorij plots. This led the Municipality to reconsider the conditions in the Ecofactorij Quality Plan. *Second*, Grolleman Coldstore, the only company in situ at the Ecofactorij at that time, did not have the critical mass to establish a company transport plan. Besides, most of the jobs provided at Grolleman Coldstore were either temporary, or performed at odd hours, which made it difficult to make a transport plan for the employees. Furthermore, the prospects for creating a critical mass within the future companies of the Ecofactorij did not seem promising enough to enforce the Company Transport Plan condition. This indicates that the *structural resources of the network actors* and the *broader context* played an important role in the abandonment of this condition. Grolleman Coldstore was restricted in its ability to adhere to the rule, mainly because of its low-density of employees. At the same time, private companies who were potential occupants, saw company transport plans, along with other requirements, as a hindrance, which further contributed to the lack of interest in Ecofactorij premises.

Therefore, the Municipality reacted to this situation, which was shaped by the broader context and the actors, by shifting its policy objective from company transport plans to a Collective Transport Plan. More specifically, it was decided that, as soon as 50 per cent of the Ecofactorij land was occupied, the resident companies should come forward with a Collective Transport Plan.

Other initiatives

Henk van de Scheur Transport and SILS have initiated some carpooling activities. They also have an activity focused on the 'loading factor of the freight trucks'. This idea works on the principle that trucks are loaded on both their entry and exit from the Ecofactorij. By achieving this, these companies receive environmental points (Interview with Peter Scherders, October 2010)

6.3.7 Other policy outcomes related to sustainability and innovation

Collective Business Building at the Ecofactorij and the provision of a complete truck service

The collective business building idea was initiated and realised by Harbers Trucks, which moved into the Ecofactorij in 2006. By owning such a building, Harbers Trucks aimed to bring together complementary services in the truck business, so clients would get a complete service all at once. Since each type of service is specialised and needs to be provided by different companies, Harbers Trucks rent out space to six other companies and ensure that this service is provided in a bundle. *Interest and strategic calculation* by Harbers Trucks led to

both cost saving and energy efficiency, thus contributing to the Ecofactorij's sustainability ambition.

Again, an agent's strategic action led to the introduction of a new innovative initiative at the Ecofactorij. This action was probably informed by the broader context, in which the Ecofactorij Quality Plan offers a reduction in the land price for those who conduct extra activities with respect to sustainability and energy efficiency.

Certificate of Recognised Sustainability for truck dealers

Harbers Trucks received a certificate of Recognised Sustainability for truck dealers; they became the first truck dealer in the Netherlands to have this certificate (Interview with Jan Harbers & Jan-Reint Harbers, April 2010). This attempt by Harbers Trucks is evidently *strategically informed*, contributing not only to the sustainability of Ecofactorij but also to their green image. This action was also informed by the Quality Plan, a part of the broader context of the Ecofactorij policy network.

6.3.8 Other policy outcomes – originating from the broader context

Stagnating relocation decisions of the companies which intended to move to the Ecofactorij

Although they were well into negotiations with the Municipality of Apeldoorn, two companies, i.e. Dumeco and Weweler, had to reconsider their decision to move into Ecofactorij.

Dumeco, a pork processing company, decided to move to a plot in the Ecofactorij adjacent to Grolleman Coldstore in 2003. This would have allowed them to receive services from the latter and also use their residual heat. However, Dumeco eventually had to give up this idea due to a pig disease epidemic, which influenced its business. This was a lost opportunity for realising some of the principles of industrial ecology.

Later, in 2007, Weweler BV, a company producing spare parts for trucks, was interested in the same plot that Dumeco had given up. However, they also postponed their decision as a result of the economic recession which started in 2008.

In both cases, the *strategic calculation* of two external actors, who were ready to act strategically and become an official part of the network, were affected by the broader context; in Dumeco's case, a pig disease epidemic and, in the case of Weweler, macroeconomic uncertainty due to the credit crisis. This change in the policy objective is a clear example of the influence of the strategic calculations and actions of agents reacting to the limitations imposed by the broader context. The eventual outcome was that the network structure remained the same; however, with more plots remaining vacant.

6.3.9 Synthesis

So far, the specific policy outcomes have been analysed, including an examination of what kind of dialectical relationships underlay each of them. It appeared that clusters of policy outcomes per policy theme, i.e. spatial-economic policy, energy and transport policy, show some commonalities. Likewise, policy outcomes, when categorised in relation to the grand policy objective and the policy instruments, display other – although not strictly uniform – dynamics. Let us now look at the synthesised findings per cluster of policy outcomes:

Thematic policy outcomes

Thematically, the *spatial-economic policy related outcomes* correspond to the initial stages of networking, such as network expansion and network reconstitution I. These stages are characterised by policy formulation. There have been the type of policy outcomes which involved the highest number and divergent range of *actors* holding various *interests*. This was especially evident when Zoning Plan-related outcomes were at stake. The *resource dependencies* of these actors indicated a large policy network with various peripheral actors, as well as a (more or less stable) core. This meant a change in the network structure. As such, the policy network gained a looser structure than the policy community.

The change in the policy outcomes, such as the change in the sectoral focus to involve the transport and logistics companies; and the change in the spatial planning percentages and in building heights have all been topics of long discussions and negotiations with various peripheral actors. These actors were transport and logistics companies – both individually and collectively – the Chamber of Commerce, the Landscape Association of Gelderland, and the residents living in the vicinity of the Ecofactorij. These outcomes have extended over longer time frames, often encompassing periods of network formation, expansion and (the first) reconstitution. Certainly, the *broader contextual factors* such as the macroeconomic recession and the diminishing role of the industrial sector in the Netherlands have contributed to these outcomes, and so has the *interest of the peripheral actors*, such as transport and logistics companies, both individually and collectively, in relocating to the Ecofactorij, because of the accessible location of the business park.

Other spatial economic policy outcomes, such as the introduction of a land-price policy via the Quality Plan and the physical expansion of the Ecofactorij, indicate the involvement of the Municipality of Apeldoorn as the leading actor. The land-price policy was the product of the intra-municipal network at the core of the network in the formation and expansion stage. This reflected the intentions of the Municipality of Apeldoorn. Likewise, the physical expansion of the Ecofactorij was dealt with within the intra-municipal network. *Strategic calculation* was evident in relation to this expansion: in this respect, the owner of the land, annexed to the Ecofactorij, bought this land in advance from the farmers, with the intention to sell

it to the Municipality; and the concession within the municipal project team, i.e. compensation paid by the Municipality's Department of Project Development to the Department of the Environment, in return for this expansion, was evident.

The dialectical relationships underlying the energy and transport-related policy outcomes definitely diverged from the spatial-economic policy outcomes as they encompass mainly the policy implementation process. However, the energy and transport policy outcomes were distinguished from each other as well.

Energy-related policy outcomes had a solid background due to the ongoing policy considerations about energy in the national, regional, and municipal policy context. Therefore, a *strategically selective context*, which was pro-sustainable energy was evident. This certainly facilitated the execution of energy-related targets. The resident enterprises of the Ecofactorij (*agency*) saw a common benefit; and the nature of the energy projects did fit in the corporate policies of the enterprises as well. Therefore, at the *intentional* and *interest* level, the energy theme gained relatively easy acceptance. On the other hand, there appeared to be other *external constraints*; as such, energy projects required external subsidies and companies' own investment; and therefore they were vulnerable to the financial circumstances. For example, the biogas production idea was hindered due to the lack of subsidies. Additionally, the concept of sustainable energy also triggered various ethical standpoints, and had multiple and complex technical dimensions. Project implementation can be hindered for other reasons such as technical failure or public resistance. A clear example concerns the project proposal for producing sustainable energy at the Ecofactorij by poultry manure incineration. This project, which dated back more than a decade, has so far not been realised owing to public resistance and the lengthy appeal procedures. The concluding remarks about the energy-related projects would be that relatively mainstream project ideas, which were seen as feasible by the resident companies, were reasonably easily executed. This was because these projects fulfilled a common goal of the business park with an explicit benefit both for the environment and for the enterprises. It must be noted that the interest of the Municipality as the provider and protector of environmental quality and common goods, coincided very well with the sustainability targets related to energy, as long as these targets did not involve controversial elements. Chronologically, energy-related outcomes were produced, unsurprisingly, in the stages corresponding to the joining and settling down of enterprises in the Ecofactorij, i.e. the first and second reconstitution stages of the network.

Finally, *transport-related policy outcomes* came at the very end of the networking process, mainly because of the relative importance attached to this policy field. The transport of passengers (commuters) was almost always seen as subsidiary to the core business activities of the enterprises. Added to that, the low number and density of employees, who worked in shifts, made it even more difficult to take concrete steps to organise alternative modes of transport for the employees, such as car pooling, or for enterprises to organise collective company shuttles.

Other policy outcomes related to sustainability and innovation – although limited in number – appear as the policy outcomes during the final stages of networking. The examples, such as collective trucking services and the Certificate of Recognised Sustainability for truck dealers fell within the discretion of a pioneer company, i.e. Harbers Trucks (*agency*), who obviously saw not only an environmental and societal added value in these activities, which would translate into a reduction in the land price, but also a commercial benefit and high exposure (*interests*).

Policy outcomes in relation to the grand policy objective and policy instruments

When the policy outcomes are examined from the angle of the policy objective and instruments, some other conclusions can be drawn. The policy framework, as set by the Municipality of Apeldoorn, included a grand policy objective and two major policy instruments. The grand objective was to achieve a sustainable business park in the case of the Ecofactorij; and the instruments to reach this objective were the Zoning Plan and the Quality Plan. The policy outcomes were achieved within the context provided by this objective and instruments. Some policy outcomes were not reached in one, single step, but rather within a process which was spread over the time during which the Ecofactorij was planned and established.

The Zoning Plan, as the regulatory instrument based on the Spatial Planning Act, provided an opportunity for public hearings and the expression of opinions in a legal-administrative context. This certainly had an impact on the network structure. That is, it paved the way for the network to have a relatively larger number of peripheral actors when it came to producing policy outcomes which fell under the Zoning Plan. When this is matched with the thematic framework as illustrated in Table 6.5, the issues, which to a large extent were dealt with in the Zoning Plan coincided with the spatial economic policy issues. Thus, these issues were identified with large number of actors with various interests, and who are linked to each other with their resource dependencies. Since these topics were open to appeal and revision, they extended to long periods of time.

The policy outcomes which originated from the Quality Plan had a different nature than those of the Zoning Plan. The Quality Plan is a regulatory document launched by the Municipality of Apeldoorn, but, it does not stem from an actual law. It offered a set of conditions for the resident companies of the Ecofactorij, linked to land-pricing policy. Companies joined the Ecofactorij by accepting these conditions. However, the implementation of this plan appeared to be flexible, which left the companies free to choose from the conditions, sometimes modify them, or put some other conditions aside unimplemented. Thus, the Quality Plan provided a (semi-) regulatory instrument with characteristics of a positive economic instrument where a high-degree of flexibility was evident. Energy and transport related policy outcomes were in the realm of small sub-networks, which could almost be called *implementation networks*.

The Ecofactorij case

Operationalisation Step 4

**Analysis of the dialectical relationships
across all policy outcomes**

6.4 Analysis of the dialectical relationships across all policy outcomes

6.4.1 Introduction

This section aims to have a broader perspective on the dialectical relationships across all policy outcomes. First, the dialectical relationships between the network agency and structure will be delineated. Then, the network, together with agency and structure, will be analysed in its dialectical relationships with the broader context. Following that, the network embedded in this broader context will be examined in terms of its dialectical relationships with the policy outcomes.

6.4.2 The dialectical relationships between network agency and structure

6.4.2.1 Agency of the Ecofactorij policy network

Agency is the active component within the Ecofactorij policy network. Actors have interests, possess resources, and act strategically in their own interests, utilising their resources. It is this dynamic which means that network agency is crucial in explaining outcomes.

Throughout the lifetime of the Ecofactorij network, depending on the broader policy context and on the particular policy issues at stake, there have been moments when actors with various interests, resources, and in strategic interaction have become involved in the network and have thus contributed to a change in the network and the policy outcomes.

The Municipality of Apeldoorn, as the major player at the core of the network, had members with various interests and resources; the Alderman with political interests and legal and financial resources, and the expert team with technical knowledge, backed up by the decision-making authority held by the Municipality and exercised by the executive civil servants. At first, the Municipality established the framework and set the conditions.

Later, in the network expansion stage and onwards, on the basis of this framework, the Municipality seem to be receptive to suggestions from other actors, while the other actors were more active in approaching the Municipality to forward their strategic interests. It was only at that stage that the Municipality became an actor, evidently responding to the other actors' strategic interventions.

For instance, during the development and revision of the Zoning Plan, two types of interests were active: economic and environmental interests. As far as the economic interests were concerned, the Chamber of Commerce of Veluwe and Twente had an interest in making the land-use conditions in the Zoning Plan

more flexible so that it would be easier for companies to relocate in the Ecofactorij. At the same time, the transport and logistics companies who were based in the region could see the merit of the Ecofactorij location and its accessibility. The Chamber of Commerce, representing the private sector and the transport and logistics companies, whether individually or organised in small groups, had financial resources and the potential ability to contribute to the economic viability of the City of Apeldoorn. In that sense, the interests of these groups, to a large extent, paralleled the interests of the Department of Project Development of the Municipality of Apeldoorn, whose main task was to strengthen the economic profile of the city by attracting business activities. In addition, the strategic action of these actors facilitated a change in their position from the periphery to a position nearer the core of the network. For instance, private companies approached the Municipality of Apeldoorn about the suitability of the Ecofactorij location for logistics activities, either alone or as a group, and with the support of the TLN (the interest organisation of the Dutch transport and logistics sector) and their request to open the Ecofactorij for this type of activities.

As regards environmental interests, organisations such as the Landscape Association of Gelderland and residents of the area surrounding the Ecofactorij had clear environmental and quality of life interests. The environmental organisations gained their power from the number of members they had, and their legitimacy in expressing the opinions of their members. Citizens in the surrounding area were most affected by the initiative, and consequently made use of their right to engage in public participation.

When talking about agency, we can talk about a notable moment in the *strategic learning* of the Municipality of Apeldoorn. As such, the Municipality learnt lessons from the Reesink case. In this connection, while the sectoral profile of the business park had already changed a long while ago, and the conditions put forward in the Quality Plan to a large extent did not reflect the activities of the resident companies, the Municipality strategically decided not to make any change in the Quality Plan. This was in order to avoid any potential legal disputes with the resident companies.

6.4.2.2 Structure of the Ecofactorij policy network

As already set in the revised dialectical model of policy networks (see Chapter 5), the structure of the network is treated as equivalent to the network shape. The policy network structure is crucially shaped by the nature of the municipal organisational arrangement for the Ecofactorij. It is basically a project initiated by the Municipality of Apeldoorn in order to develop a sustainable business park within the municipal boundaries. While, on the one hand, the Alderman of Apeldoorn, responsible for economic affairs, was the political founder and supporter of this project together with the executive civil servants of the Department of Project Development, on the other hand, the Ecofactorij project team, composed of members from various municipal departments, formulated

policy. As such, at the core of the policy network, there was an 'intra-municipal policy sub-network'. The responsibility for policy formulation lay exclusively in the hands of this network, composed of the Alderman and executive civil servants, on the one hand, and the expert team responsible for the Ecofactorij, on the other. However, over time, while the core actors have remained more or less stable, there appeared peripheral actors, such as the environmental organisations and citizens, who had a say during the development and revision of the Zoning Plan, on the one hand, and the companies and the Chamber of Commerce, on the other, which indicated that the network during the formal decision-making processes had moved towards the looser end of the Marsh-Rhodes continuum. Policy network characteristics never resembled issue network characteristics because ideas, as raised by the peripheral actors, did not have a controversial/oppositional nature. As such, the network has shifted to the looser end of Marsh-Rhodes continuum, but never reached the range of the issue network, especially because controversial ideas were not at stake; there was a minimum level of consensus on the basic values.

The position of the Municipality of Apeldoorn at the core of the policy network was strengthened by a number of factors. Firstly, the idea for the Ecofactorij as a sustainable business park began as a municipal project. The Municipality appeared not only as the initiator of the project, but also as the actor holding political responsibility and decision-making power. Then, two major policy instruments, i.e. *regulatory instruments*, were used: the Zoning Plan, as required by the Spatial Planning Act; and the Quality Plan launched by the Municipality of Apeldoorn, prescribing the conditions for sustainability in the Ecofactorij. These plans further contributed to the institutionalisation of the project, as well as strengthening the position of the Municipality at the core of the network.

The Zoning Plan provided a legal and technical framework for establishing the Ecofactorij. The Quality Plan of the Ecofactorij defined a set of conditions to be fulfilled by the Municipality and another set to be adhered to by the companies which located in the business park. All the companies interested in relocating to the Ecofactorij needed to accept all the requirements imposed by the Municipality. This provision gave the impression of a top-down approach to the planning and development of the business park. However, there were a few other actors of the network: namely, the Chamber of Commerce, the transport and logistics companies, the Landscape Association of Gelderland, and the residents of Zutphensestraat, who continuously attempted to exert influence on the content of the Zoning Plan. Throughout the course of the planning and development of the Ecofactorij, the Ecofactorij policy principles have, to some extent, been curbed by these other actors who represent the private sector and the environmental organisations and residents.

As already indicated, the dual role of the Municipality comes to the fore in the Ecofactorij case. The Municipality of Apeldoorn faced the necessity of attracting business to the city, on the one hand, and ensuring the preservation of

environmental quality, on the other. This putative tension is a major feature of the network structure.

As analysed in detail in Section 6.1, different stages of the networking process were marked by changes in the structure of the network. During the network expansion process, there were a number of peripheral actors, who made several attempts to penetrate the core of the network, where the Municipality of Apeldoorn was centred. In particular, the transport and logistics companies who wished to be located in the Ecofactorij approached the network as an individual company or lobbying groups.

As the Ecofactorij was eventually opened up to the transport and logistics companies, some of the lobbying private companies became a part of the policy community, not only as residents of the Business Park, but also as members of the Park Management Cooperative (PMC). This meant a definite shift for them from the periphery of the network to the core. Another source of the institutionalisation of the Ecofactorij network was the formation of the PMC, which had the resident companies on its Board, as well as a representative of the Municipality. The existence of the PMC, which was in a way a sub-network, contributed both to the further strengthening of the network structure and to network and policy stability.

However, there was one resident company which decided to remain outside the network structure: this was Reesink, the first private company which located in the Ecofactorij, which had a long-term legal dispute with the Municipality of Apeldoorn. The quality criteria set out in the Quality Plan for resident companies, which contributed to the institutionalisation of the Ecofactorij, had a different effect on Reesink. Since Reesink signed an agreement with the Municipality of Apeldoorn before the Ecofactorij idea was formalised, the quality criteria incorporated in the Quality Plan were not binding for them (Interview with Bernard ten Doeschate, March 2005; Interview with Peter Scherders, March 2005 and April 2010); therefore, while they were members of the policy community in the network formation phase, they left the network soon afterwards; thus, they were no longer members neither of the PMC nor of the core of the network.

In a nutshell, the shape of the network, as treated being equivalent to the network structure, resembled the policy community in the network formation phase, with the intra-municipal network composed of three types of municipal actors, as well as with the Province of Gelderland and Reesink. Subsequently, in the network expansion stage, and the stage of the first reconstitution, the network became looser in structure with the joining of numerous peripheral actors. The stage of the second reconstitution and the stabilisation stage of the network showed changing characteristics of the policy community, since some of the peripheral actors joined the core and others left. However, the policy community in the final two stages was different compared with the initial policy community. In the first stage, there was an evident intra-municipal policy network, where the

Municipality was represented by three layers: the Alderman, the Department of Project Development and the Ecofactorij project team. In the final two stages, the Municipality was represented by only one actor, i.e. the Department of Project Development; and a more prominent role was played by both the PMC and the resident companies of the Business Park.

6.4.2.3 The dialectical relationships between agency and structure of the Ecofactorij policy network

The interaction between network agency and network structure comes into existence when the actors who are linked to each other by resource dependencies, start interacting. In line with that, I argue that network agency precedes network structure. In my view, the strategic interaction of both the Municipality and other actors changed the structure of the network, with certain actors moving from the periphery to the core of the network. Hence, the network structure (in other words, network shape is changed by the agents: by the resource dependencies between the actors, who hold various interests and resources, and the actors' strategic interaction).

The resource dependencies between the actors play a facilitating role in ensuring the dynamic interaction between network structure and agency. Given the resources they have, actors are sometimes placed in a co-dependent situation, and their strategic actions are constrained and/or facilitated by this dependency. This situation can eventually lead to the transformation of the network structure and/or its further institutionalisation. In this case, resource dependencies were most evident between the Municipality of Apeldoorn and a number of organisations, such as Reesink, environmental NGOs, the owner of the private land annexed to the Ecofactorij, etc. In addition, within the Municipality of Apeldoorn, a resource-dependent relationship was apparent between the Department of the Environment and the Department of Project Development.

During the formation phase of the Ecofactorij policy network, the Municipality of Apeldoorn and Reesink were linked in a relationship which involved some resource dependencies. So, the first interaction took place at a point when the Municipality needed to identify a location for this new business park. As such, the Municipality could not stay aloof from a stock market registered company such as Reesink which expressed a clear interest in locating at the Ecofactorij. Reesink, on the other hand, needed to find a new and accessible location convenient for its activities and for its employees to commute easily between Apeldoorn and Zutphen. As such, both parties had an interest in the Ecofactorij Business Park.

The Municipality of Apeldoorn and the owner of the 5 ha land next to the Ecofactorij area were in a resource-dependent position. While the Municipality had already considered expanding the Ecofactorij Business Park, it was the private land owner who triggered the process by his proposal to co-develop the land with the Municipality. Land ownership, as a *resource*, led the two parties to

agree the terms of a Public-Private Partnership agreement; thus adding a new element to the network structure. In fact, within this context, another type of resource dependency occurred between two departments of the Municipality, the Department of Project Development, which was in charge of the Ecofactorij project, and the Department of the Environment. The negotiations between the two Departments led to a concession that the first would pay monetary compensation to the latter, provided that it supported the 5 ha expansion of the business park.

The strategic actions of some of the actors facilitated a change in their position from the periphery to the core. This led to a parallel shift in the shape of the network, certainly until the particular issue at stake was resolved or a consensus was developed. As a matter of fact, the shift in the shape of the network meant a change in the structure of the network, with the tight policy community at the core, being added to with other actors from the periphery. Some actors who joined the policy network, initially found a place on the periphery, but eventually moved towards the core of the network. For instance, transport and logistics companies, such as Henk van de Scheur and Harbers Trucks, individually and in cooperation with each other and with other companies, approached the Municipality of Apeldoorn in order to try to influence the sectoral restriction in the Zoning Plan of the Ecofactorij, which excluded transport and logistics companies. Eventually, given the relevant change in the Zoning Plan, both companies relocated to the Ecofactorij and became members of the PMC. This meant that both these companies moved from the periphery towards the core of the network.

The dynamics of change in the network structure produced by the actions of agents also, in turn, influenced the agents. With the changed shape of the network, the actors redefined their positions, and, accordingly, their priorities and strategic actions changed. For example, after having established its position at the core of the Ecofactorij network, Harbers Trucks, which once had been at the periphery, focused on developing more cost-efficient and energy-saving activities. These activities included setting up a collective business building into which other service providers could move, and working to obtain a 'certificate of recognised sustainability' for truck dealers.

6.4.3 The dialectical relationships between network and the broader context

Network agency and network structure the interaction between them have already been discussed in Section 6.4.2. My intention in this section is to re-examine the interaction between the actors' strategic interaction and the network structure through the lens of the broader context, thus examining the network in its broader context. This context is strategically selective as it involved the Municipal policy context and some external constraints, such as the macroeconomic recession and more specific factors, influencing the business of one company, i.e. the pig disease epidemic.

The broader context relevant for the Ecofactorij was largely shaped by the themes of municipal policy, i.e. spatial economic development; sustainability (specifically with respect to sustainable business parks and sustainable energy policy which was also being driven at the national level), and mixed urban land use. In fact, the sustainability paradigm put the Ecofactorij in a special position, at the intersection of various and sometimes conflicting interests. In addition to these themes, there were some external constraints which had an influence on the network and policy outcomes: the macroeconomic recession; overall trends in the location choice of the companies; a pig disease epidemic; and public opinion.

The municipal policy context

The Municipal policy context in spatial-economic development and sustainability initially established a framework for the Business Park, which was first called the Apeldoorn Oost Business Park, and then became the Ecofactorij. The change in the name in fact came after a change in the focus of the policy: the shift from a business-as-usual investment project to a sustainable investment project. This already indicated a change in the broader context, initiated at the municipal level.

Another policy principle which contributed to the development of the Ecofactorij idea was related to the clear distinction between urban and rural areas, envisioned in the Dutch spatial planning policy. So the policy decision to establish a business park at the intersection of urban and rural areas was at odds with the principle of the Municipality of Apeldoorn to conform to such a distinction between the urban and rural areas. Therefore, a concession needed to be made. Hence, if a suburban location was inevitable for developing a business park, then it was a 'must' that it should be a sustainable business park.

The national discussion on the sustainable business parks also formed a part of the broader context. Once sustainable business parks became an actual national spatial-economic development topic, a number of publications were produced which annually selected the best Dutch business parks. The Ecofactorij was rated as one of the top-25 Dutch business parks in 2009, when its efforts to become a sustainable business park were appraised.

Thus, the idea of the Ecofactorij was shaped within a broader policy context marked by a particular positive emphasis on inner city development and sustainability, rather than suburbanisation and a non-sustainable approach. However, there were other important factors within the broader context.

These factors were primarily interpreted by the Municipality of Apeldoorn (*agency*) who held political, legal and financial *resources*. The first policy outcome was the decision to develop a sustainable business park.

The macroeconomic recession

The Municipality of Apeldoorn, perhaps somewhat idealistically, saw the Ecofactorij Business Park as focusing on the industrial sector where companies

would make use of each others' residual heat and create a kind of chain-management, thus excluding the transport and logistics sector. The exclusion of the transport and logistics sector in the Ecofactorij was opposed by companies in that sector, particularly because of its very accessible location. It was these companies, which eventually tried to convince the Municipality to change the Zoning Plan and allow them into the Business Park. At the same time, the macroeconomic and spatial-economic trends had an influence in allowing the transport and logistics sector to move into the Ecofactorij. The mid-1990s and the early years of the 2000s were marked by an economic slowdown in the Netherlands and inertia in industrial activities. Many newly developed business parks in the Netherlands were having difficulties in attracting companies to move in, and the Ecofactorij Apeldoorn was no exception. At the same time, industrial activities were moving away from Western Europe to the countries where production cost per unit is cheaper, and this also had an impact in the Netherlands. Therefore, it proved increasingly difficult to find industrial companies who would relocate in the Ecofactorij.

If the municipal policy context of sustainability and industrial parks contributed to the making of the decision for the Ecofactorij, the macroeconomic recession contributed to the fact that the Ecofactorij remained unoccupied for a long while, which had an impact on the network shape: because transport and logistics companies joined the periphery. And the next resultant outcome was the inclusion of the transport and logistics sector.

The macroeconomic recession probably had its most direct impact on Weweler, one of those companies considering locating in the Ecofactorij. Weweler produces spare parts for the trucks and, although it agreed with the Municipality of Apeldoorn that it would relocate next to Grolleman Coldstore in 2007, it still has not moved into the Ecofactorij because of the economic recession and its impacts on the company. However, the Municipality of Apeldoorn has reserved a site for Weweler.

Accessibility as a location choice factor for the companies

Accessibility played an important role in the location choice of companies and was one of the major driving factors causing the transport and logistics companies to approach the Municipality of Apeldoorn to allow them to relocate in the Ecofactorij. This approach, in the context of the slow demand for industrial sites, led the Municipality of Apeldoorn to open up the Ecofactorij to transport and logistics companies. However, the Municipality also made additional concessions in order to promote the marketability of the business park. So, the Zoning Plan, was altered to allow higher buildings and smaller plots, which satisfied the demands of many private companies.

So, many private companies lobbied for the sectoral inclusion of transport and logistics activities in the Ecofactorij. Therefore, they joined the Ecofactorij network as peripheral actors.

Other factors: The pig disease epidemic and public opinion

Dumeco, a pork processing company, reconsidered its decision to relocate on account of the outbreak of a pig disease, which caused financial problems.

In addition, public opinion has been an important part of the controversial debate on sustainable energy production by means of poultry manure incineration (see Chapter 7 for an extensive elaboration).

6.4.4 Synthesis: Dialectical relationships between the policy outcomes and the policy network embedded in the broader context

During the mid- and late-1990s, the Municipality of Apeldoorn came up with the idea of developing the Ecofactorij as a sustainable business park in the City of Apeldoorn. This would be a model business park, led by industrial ecology principles. That is to say, sustainable synergy would ideally be created by exchanging the waste and energy streams of the companies, who would be involved in mutually compatible industrial activities of Environmental Categories 3 and 4. However, eventually, the Ecofactorij in practice turned out to be a business park, dominated by transport and logistics companies. With this change in the sectoral scope, the sustainable business park idea with industrial ecology principles, was no longer completely applicable. Even then, the sustainability ambitions, as outlined in the Ecofactorij Quality Plan, remained unchanged. However, the practice indicated only some incremental attempts by the resident enterprises of the Business Park to incorporate sustainability in their activities. These attempts were primarily by means of projects aiming at sustainable energy production, in which the companies also saw a direct benefit.

Why was there such a gap between the originally formulated policy and policy practice? What role did the policy network play so that the Ecofactorij came to have this gap between policy formulation and policy implementation? And, how can the dialectical model of the policy networks help us understand and explain this discrepancy?

With a brief look back to the theoretical part of this dissertation, it may be recalled that the revised dialectical model of the policy networks revolves around four key variables: network agency; network structure; the broader context; and policy outcomes. The most remarkable finding of this model when applied to the Ecofactorij case appears to be the dynamic role played by the network agency, embedded in a strategically selective context.

As such, the network agency with its components, i.e. interests, resources and strategic interaction, interprets the broader context; constitutes the policy network; shapes the network structure; and plays a key role in triggering the introduction of new policy outcomes or a change in the existing policies. This dynamism occurs in an iterative process; thus, in turn, agency is transformed, new actors join, and the shape of the network evolves. Furthermore, the change

in the network shape, as induced by the actors and their interests, resources and strategic interaction, does not only lead to policy outcomes, but these very policy outcomes also have an influence on the next set of policies, which appear in the form of modified policy outcomes (spatial-economic and energy policies), and decisions kept on hold, as well as fragmented initiatives (transport policies).

The Ecofactorij provides a case which started as an agency-based initiative, rooted in the Municipality of Apeldoorn's ambition to develop the Ecofactorij as a model sustainable business park of the City. This grand policy objective was supported by the launching of two major policy instruments by the Municipality of Apeldoorn; i.e. the Zoning Plan, which laid down the spatial-economic contours of the Business Park and the Quality Plan, which enlisted various quality conditions in ten thematic areas including spatial use, energy, and transport. While the first instrument had a legal character, the second one involved guidelines for sustainability in the Ecofactorij. The Municipality, as the core actor, had various *structural resources*: these resources were of a *political* (the Alderman's political interest), *legal* and *financial* (Department of Project Development) nature, as well as involving informational resource (*expertise* of the Ecofactorij project team) to initiate and pursue this project.

Surely, the idea and development of the Ecofactorij did not arise in a vacuum. There was an underlying broader context, characterised by two factors, and interpreted by the Municipality. *First*, the major themes within the municipal policy context, such as sustainable business parks, sustainable energy, and the principle of keeping urban development distinct from the rural areas, were crucial aspects of the strategically selective context. *Second*, the Municipality had structural resources and a legitimate policy context to initiate the Ecofactorij as a sustainable business park. However, the practice turned out to be different than what was aimed. So, what were the breaking points?

I argue that there were two distinct moments which led the Ecofactorij to deviate from its ambitions, and led to perpetually incremental policy outcomes:

- (i) the decision of the Municipality of Apeldoorn to allow transport and logistics companies in the Ecofactorij, which was originally planned as an industrial park;
- (ii) the reluctance of the Municipality of Apeldoorn to adapt the Quality Plan to the changed sectoral composition of Ecofactorij; thus, the failure to reformulate the sustainability conditions in the Quality Plan, according to the transport and logistics activities.

These breaking points did not appear all at once; they were rather the accumulated results of the ongoing dialectical relationships between the actors, the network structure, and the incremental policy decisions being taken, embedded in a broader context.

The roots of the *first breaking point* – related to *the changed sectoral focus* – date back to the moment when the initiative of the Municipality was taken further with the involvement of various other actors, each forwarding their own interests, and by consequent strategic interaction between the Municipality and the actors with economic and environmental interests. These actors were connected to each other with their *interests and resource dependencies*, most evidently during the expansion and initial re-constitution stages of networking. Among these actors were the transport and logistics companies, who approached the Municipality of Apeldoorn individually and in sub-networks together with the Chamber of Commerce and TLN, the organisation for the interest of the logistics sector, in order to bring about a change in the sectoral focus of the Business Park. Their ultimate goal was to ensure that the logistics sector would be allowed to relocate and conduct activities in the Ecofactorij. *External constraints* such as the macroeconomic recession and the companies' stagnating decisions to move into the Ecofactorij reinforced the impact of the lobbying activities of the transport companies. Eventually, these efforts paid off and the sustainable business park idea for Ecofactorij was opened up to include the transport and logistics companies. This meant a shift back to the very initial idea of the Ecofactorij, which not only would have industrial but also logistics enterprises. This fundamental change in the policy had an impact both on the network structure and the policy outcomes: As such, the network structure (i.e. the shape of the network) changed, since the companies which had lobbying activities at the periphery of the network moved to the core of the network, causing the network to move back to a tighter policy community shape. Indeed, the change in the sectoral focus had an enormous impact on the policy outcomes since it would mean fewer opportunities for industrial ecology principles to be applied in the Ecofactorij as designed in the eco-industrial vision. This takes us to the *second breaking point*, to which is described in the next paragraph.

Concerning the second breaking point, it was clear to the Municipality of Apeldoorn that the sustainability conditions in the Quality Plan were not entirely suitable for the transport and logistics sector; however, the Municipality was reluctant to reformulate these conditions. This was a result of the *strategic learning* of the Municipality of Apeldoorn, who once had long-standing legal dispute with Reesink, the very first company of the Ecofactorij. It was because Reesink did not agree with the Zoning Plan and Quality Plan conditions, which were set after they signed a mutual agreement with the Municipality of Apeldoorn. By keeping the Quality Plan as it was, the Municipality prevented potential legal issues with the other resident companies. Taking a Zoning Plan and a Quality Plan originally made for industrial companies as the basis obviously required a flexible approach from the Municipality towards the companies. Therefore, some of the conditions, such as the exchange of waste streams, which no longer fitted with the resident companies were naturally skipped; and others were kept on hold, such as company transport plans (due to the lack of critical mass of employees to create sustainable commuting patterns). In addition to the changed sectoral focus, the macroeconomic conditions were

not that conducive to making all the quality conditions turn into reality. For example, energy policies could only partially be implemented, although the companies were willing. A national subsidy was not available for the biogas production idea; and the sustainable energy production by means of poultry manure incineration (see Chapter 7 for an extensive analysis) could not be implemented because of both public resistance and the lengthy appeal-procedures related to technical and procedural complications.

Therefore, the policy outcomes were often in incremental forms; or in the form of intermediate decisions. Between two intermediate decisions, it was often observed that actors strategically reacted to the policy at stake and exerted influence on the next step. In this sense, it could be argued that the feedback from the policy outcome was most evident in the form of a new and adapted reaction by the *actors*, which further induced intermediate decisions or incremental policy outcomes.

The actors were stimulated by Zoning Plan procedures; and this had an impact on the network structure. The preparation and revision of the Zoning Plan corresponded with the stages of network expansion and initial re-constitution, which also brought some other actors together, with different interests and resources, thus forming a policy network with actors not only in the core but also on the periphery. As such, given the Municipality's commitment to the sustainability paradigm to underpin the Ecofactorij Business Park, other actors, such as environmental organisations and citizens with environmental interests, on the one hand, and the Chamber of Commerce and individual companies, with economic interests, on the other, joined the policy network on the periphery. They strategically interacted with the Municipality in order to bring changes in: the percentages of spatial use in the Ecofactorij; building heights; and size of plots (as well as the expansion of the sectoral focus). These actors used their public participatory rights to express their opinions, and eventually contributed to the change in the policy goals. The idea of sustainability imposed by the Zoning Plan was contested by the environmental interests, thus leading to constant discussions and modifications of the building percentage, building height, and plot sizes. While the 40 per cent building percentage was seen as too limited for economic reasons by the actors holding economic interests, the same percentage was criticised by the environmental organisations as it would work against the intensive spatial use principle and motivate excess car use. The building percentage was eventually modified by the Municipality of Apeldoorn to 50 per cent, which was still far from satisfying either environmental or economic interests. However, an actor, i.e. Grolleman Coldstore, the first official resident company of the Ecofactorij, which, although not happy about the building percentage of 50 per cent, decided to move in anyway, with the idea of attempting to increase the percentage eventually⁹⁵. This was the *strategic calculation* of Grolleman. The Municipality of Apeldoorn, which did not want go

⁹⁵ An update of this information is not available.

give up the idea of 50 per cent building percentage, *compensated* for this decision by raising the building height. Another *compensation* by the Municipality was an internal one: the Department of the Environment was paid a compensation fee by the Department of Project Development, in return for the physical expansion of the Ecofactorij by 5 ha.

Evidently, with respect to the network structure, the intra-municipal team was placed at the core of the network, and the actors with economic and environmental interests remained on the periphery. However, eventually, some of the companies on the periphery achieved a position in the core of the network with the opening up of the Ecofactorij to transport and logistics companies. Thus, the change in the sectoral focus of the Ecofactorij, as a policy change, exerted influence back on the network structure. As such, since the first revision of the Zoning Plan was finalised in 2006: namely, from the second reconstitution stage of the networking until the present day, the network transformed into a policy community, with a larger number of members when compared with the formation stage, and with a shifted focus. Now, it was no longer the Municipality of Apeldoorn which dominated the policy community, but the PMC of the Ecofactorij and the individual companies who were the members of the PMC.

As the Ecofactorij Business Park became more settled over time, the dialectical model indicated that other *agential factors* may become important. In the earlier phase, governmental actors with their structural resources were dominant, thus composing a policy community. Later, the policy network became larger than an intra-municipal network, when the private enterprises were included; and this meant a move away from a tight policy community. For instance, companies became forceful in manoeuvring within the structure which was defined by the Municipality. This was most evident when the resident companies, such as Harbers Trucks, once settled in, redirected their focus towards activities such as the Collective Business Building and the Certificate for Sustainability for truck dealers, which in some way contributed to both energy efficiency and cost saving and the sustainable image of the company and Ecofactorij. These examples illustrate the perpetual strengthening of the role of actors, who, however, of course, remained embedded in the broader context.

As of March 2011⁹⁶, the Ecofactorij was still holding onto the idea of sustainable business park. But, at that moment, the initiative seemed to belong to the resident companies and the PMC, and their choices of sustainable activities. Upcoming companies like Sparkling Projects, which will also serve as the Ecofactorij Sustainable Information Centre might bring a new impetus. Additionally, the new Zoning Plan, currently in preparation and expected to be finalised in 2011-2012, might incorporate new dimensions of sustainability.

⁹⁶ The Ecofactorij case was last updated in March 2011.

**Overall synthesis and
'How does the revised dialectical model
work'?**

6.5 Overall synthesis and 'How does the revised dialectical model work'?

So far, the revised dialectical model has been empirically applied at four operational steps. At the end of each operational step, a synthesis was provided. As such, the first operational step examined the interrelationship between the stages of networking and change in the network shape (6.1). Secondly, the link between the policy outcomes and the networking stages, and the link between policy outcomes and the network shape were elaborated (6.2). The third step of operationalisation focused on the dialectical relationships which underlay each identified policy outcome (6.3). Finally, the dialectical relationships were analysed across all policy outcomes (6.4).

The aim of this section is to look back over the syntheses of all the four operationalisation steps, provide an overview of them, and answer the question:

How does the revised dialectical model work?

Looking back over the first two operationalisation steps (6.1 and 6.2), there appears close interrelationships between the stages of networking, network shape, and policy outcomes. Thus, these two steps can be integrated in a triangular form, involving interrelationships between:

- the stages of networking and the network shape;
- the policy outcomes and the networking stages, and
- the policy outcomes and the network shape.

This triangular interrelationship can be observed in Figure 6.8 below:

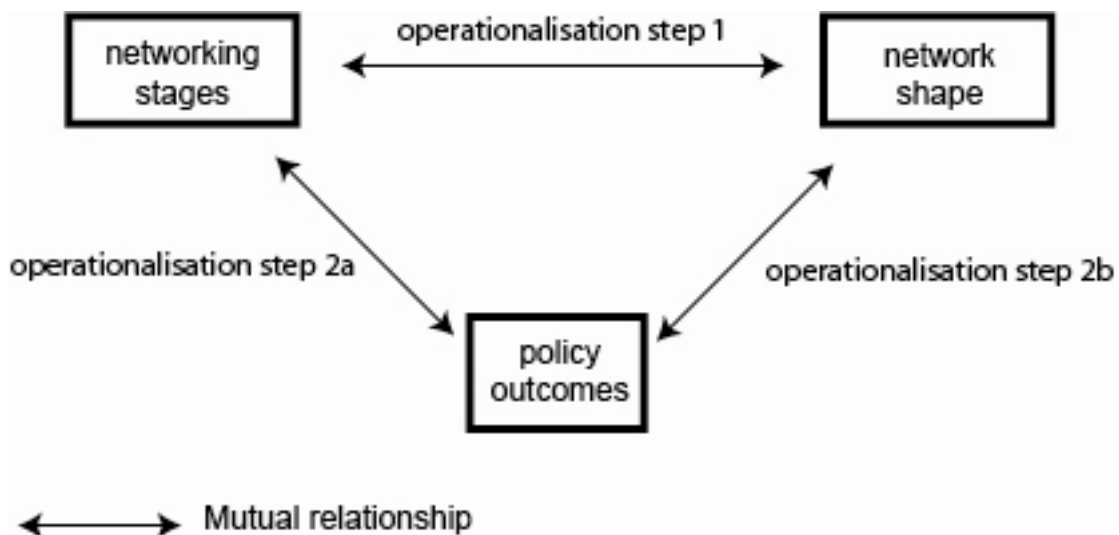


Figure 6.8: Interrelationships between stages of networking, network shape, and policy outcomes

The application of this triangular interrelationship to the Ecofactorij case is illustrated in Figure 6.9.

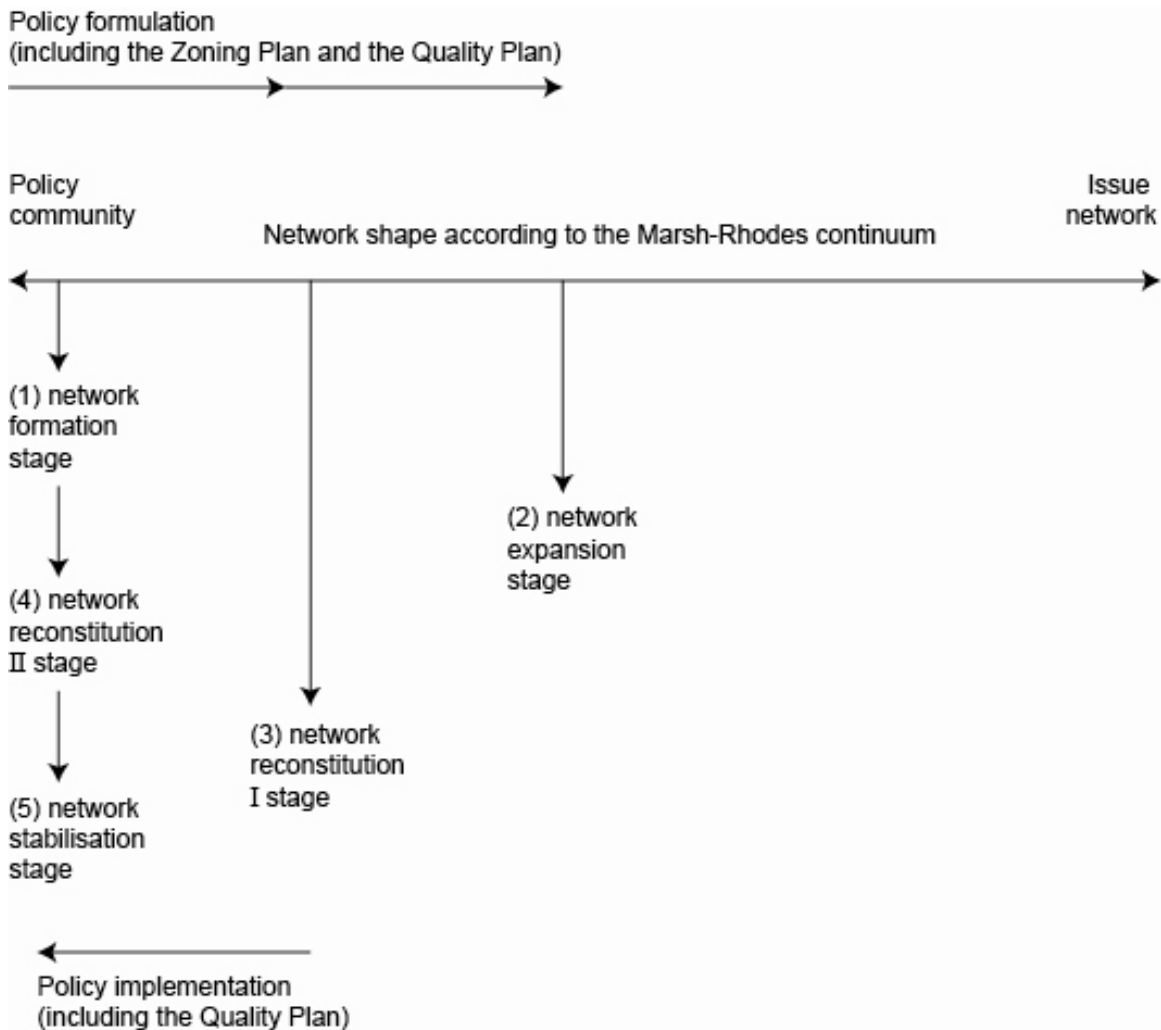


Figure 6.9: Interrelationships between stages of networking, network shape, and policy outcomes in the Ecofactorij Business Park

Looking at each of these relationships, specific conclusions can be drawn. These conclusions are presented below, by type of interrelationship.

Interrelationship between the stages of networking and the network shape

- There were five networking stages identified throughout the life cycle of the Ecofactorij policy network: network formation; network expansion; network reconstitution I; network reconstitution II; and network stabilisation.

What triggered the formation of the Ecofactorij policy network?

- The Ecofactorij policy network was first formed as a policy community. The policy decision (*policy outcome*) of the Municipality of Apeldoorn (*actor*) to establish the Ecofactorij as a sustainable business park (*policy objective*) was fed by the municipal policies regarding industrial park development and sustainability in the City of Apeldoorn (*broader context*) and the accumulation of past decisions (*the broader context*). The Municipality of Apeldoorn had an interest in developing a sustainable business park and made use of its *structural resources* (Alderman: *political resources*; Department of Project Development: *legal and financial resources*; interdisciplinary project team of Ecofactorij: *informational (expertise) resources*). Besides, two other actors were a part of the network formation process: The Province of Gelderland and Reesink (with own *interest and resources*). The combination of these factors not only triggered the formation of a policy community but also contributed to its eventual institutionalisation.

What was the nature of the change in the network shape?

- The Ecofactorij policy network started as a policy community in the network formation stage. With the joining of peripheral actors, it moved towards the looser end of the Marsh-Rhodes continuum during the stages of network expansion and network reconstitution I. The network re-gained its policy community shape by moving back to the tighter end of the continuum during the stage of network reconstitution II, and remained there at the network stabilisation stage.

How has the network shape changed?

- The Municipality of Apeldoorn, as the initiator of the Ecofactorij Business Park idea, was the core actor of the network. In fact, it formed an intra-municipal network with its three-layered membership structure, including the Alderman, the Department of Project Development, and the Ecofactorij project team. This intra-municipal network formed the basis of the policy community at the network formation, and preserved its position in the network expansion stage. In the remaining stages, when the transport and logistics companies relocated to the Ecofactorij and formed the PMC, the Municipality of Apeldoorn existed in the policy community with one layer, i.e. the Department of Project Development. In addition, there was a representative of the Municipality on the PMC.
- The shape of the Ecofactorij policy network ranged from the tight policy community towards a relatively looser structure; however, it has never reached the issue network end of the Marsh-Rhodes continuum. There were diverse voices raised by the peripheral actors, but these have almost never involved controversial issues or antagonisms. In other words, the very rationale of the Ecofactorij was not questioned, and nor was the development of the project threatened by diverse range of interests.

What triggered the change in the network shape?

- The joining of peripheral actors triggered the change in the network shape. This trigger took place in the network expansion and network reconstitution I stages. Two types of peripheral actors' interests could be distinguished: environmental interests, and economic interests. The nature of these interests contributed to the change in the network shape.
- The environmental interests were represented by the NGOs and residents living in the vicinity of the Ecofactorij. These actors joined the periphery of the network during the making of the Zoning Plan (network expansion stage) and the revision of the Zoning Plan (network reconstitution I stage). They had issues with the percentages of the various spatial uses and the sustainability of the Business Park. They had a say in the public participatory processes related to the Zoning Plan, and they left the periphery of the network once their viewpoints were heard out and partly reflected in the Zoning Plan (network reconstitution II stage). So, the nature of the interests (*actor*) and the public participatory rights of the actors with environmental interests, based on the Dutch Spatial Planning Act (*broader context*) facilitated the joining and eventual leaving of this one particular group of actors on the periphery of the network.
- The economic interests were represented by the Chamber of Commerce of Veluwe and Twente, TLN (the organisation for the interests of the Dutch logistics sector) and transport and logistics companies, both individually and collectively. These actors formed various sub-networks, and mainly did lobbying (as well as taking part in the official participatory procedures of the Zoning Plan) in order to promote the decision to include the transport and logistics sector in the sectoral profile of the Ecofactorij Business Park. These sub-networks approached the Municipality by using various communication mechanisms, e.g. with an open request to the Municipality to open up the Ecofactorij to the transport and logistics sector; and concrete project proposals to realise in the Ecofactorij, such as establishing a rail-road freight terminal, etc. As a result, some policy changes were achieved, the most remarkable one being the opening up of the Ecofactorij to the transport and logistics activities. Having achieved this policy change, some actors with economic interests, such as the Chamber of Commerce and TLN left the periphery of the network, just as the environmental actors did. The most remarkable outcome triggered by this new decision was that some of the individual transport and logistics companies relocated in the Ecofactorij and joined the Park Management Cooperative. They strengthened their position in the network by moving from the periphery to the core. There was also land expansion at the Ecofactorij. The network shape evolved back to the policy community at the network reconstitution II and stabilisation stages. However, this policy community was a transformed version of the policy community at the network formation stage.

How does the revised dialectical model work?

- The model indicates that the Marsh-Rhodes continuum ranging from policy community to issue network is relevant in the Ecofactorij case. It helped identify the changes in the shape of the Ecofactorij Policy Network.

Interrelationship between networking stages and policy outcomes

- Policy outcomes as a result of the policy formulation process dominated the stages of network formation, expansion, and reconstitution I. The stages of network reconstitution II and network stabilisation were distinguished more by the policy implementation process (as well as by the policy formulation).
- The distinction between policy formulation and the policy implementation processes were in line with the use of two policy instruments, launched by the Municipality of Apeldoorn: the Zoning Plan and the Quality Plan. As such, the Zoning Plan primarily distinguished the policy formulation process. The Quality Plan, on the other hand, encompassed both policy formulation and implementation processes.
- With a thematic look, spatial-economic policy outcomes were primarily dealt with by the Zoning Plan. This corresponded with the policy formulation process during the stages of network formation, expansion, and reconstitution I. The policy outcomes related to energy and transport were dealt with primarily in the Quality Plan. This corresponded with the policy formulation and to a large extent the policy implementation processes, which encompassed the stages of network reconstitution II and network stabilisation.

How does the revised dialectical model work?

- There is a correlation between the stages of networking and the policy cycle (policy formulation and policy implementation). When unpacked, this correlation is evident in the use of policy instruments, the Zoning Plan and the Quality Plan, which followed a certain temporal order. This order thus corresponded with the rhythm of the policy cycle, as well as with the networking stages.

Interrelationship between the network shape and the policy outcomes

- When the network had the policy community shape, with a limited number of members and similar interests, there were symptoms of policy stability, which was evident in: the integration of interests of the members; the formulation of the grand policy objective by policy community in the network formation stage; implementation of the Quality Plan conditions in the reconstitution II and stabilisation stages.

- When the network shape indicated a relatively looser structure, i.e. more peripheral actors were involved, policy outcomes tended to be more in the form of modified policies or new policy decisions such as the changes introduced in the Zoning Plan regarding spatial use, sectoral profile, etc.

How does the revised dialectical model work?

- Although this dissertation does not primarily intend to test the argument regarding the linkages between policy stability and policy change in line with the network shape, the findings indicate that the presence of a tight policy community corresponds with policy stability or a relatively smooth process of policy making and implementation. When the network shape gains a relatively looser structure, policy change is more evident. This is triggered by interim policy decisions and modifications.
- Following Daugbjerg's proposition (see Chapter 5), it was put forward that the policy community can be linked to the low-cost environmental policies, and the issue networks can be linked to the high-cost environmental policies. The Ecofactorij case confirms this proposition; but it requires some explanation concerning how it does so: the initial impression is that the Ecofactorij case revolves around high-cost environmental policy because the Municipality of Apeldoorn identified a *specific and precise policy objective* as 'developing a sustainable business park'. Even though the objective remained unchanged throughout the genesis of the Ecofactorij, the way efforts were made in order to realise this objective was not as precise. As such, the policy instruments that the Municipality of Apeldoorn, as the core actor of the policy network, introduced in the network expansion stage, in order to realise this objective, were *regulatory instruments*, i.e. the Zoning Plan and the Quality Plan, which are identified more with the low-cost environmental policies. Especially, the Quality Plan, which prescribed quality conditions for the companies to fulfil for sustainability, was linked to a *positive economic instrument* (also a feature of low-cost environmental policies), which involved a discount for the companies in the land price. The requirements of the Zoning Plan and the conditions stipulated by the Quality Plan became open to interpretation during the stages of network expansion and reconstitution I, when the policy network gained a relatively looser structure (though not as loose as an issue network) with the joining of peripheral actors. In these stages, a range of policy decisions were triggered, aiming to curb and modify the strict conditions of the Zoning Plan, which had already been imposed at the network expansion stage. The actors of environmental interests aimed for a high-cost environmental policy, whereas the actors of economic interests aimed for less strict conditions for the environmental policy (low-cost environmental policies). Evidently, the relatively low-cost environmental policies won over the high-cost environmental policies. This change came with the modified and curbed decisions, as triggered by the economic actors. Then, the newly reconstituted policy network regained

the shape of a policy community (in the stages of network reconstitution II and network stabilisation), which was mainly involved in a flexible implementation of the conditions in the Quality Plan (low-cost environmental policy).

How does the revised model work regarding the analyses of dialectical relationships?

Looking back over the third and fourth operationalisation steps of the revised dialectical model of policy networks, we can talk about how the revised model works when the mutual relationships between the key variables (i.e. network agency; network structure, the broader context; and policy outcomes) of the model are analysed. The findings are elaborated below:

Finding 1: It is crucial to understand which components of the variables are influential

An overarching finding related to the use of the dialectical model is that, when the interactive relationships are examined underlying each policy outcome and across all policy outcomes, it appears that there is an evident synchronised interrelationship between at least three of the four key variables (i.e. network agency, network structure, the broader context and policy outcomes). In order to have a better understanding of the interdependence between policy networks and policy outcomes, we need to unpack:

- (i) which components of these variables have been the most important ones in the identified dialectical relationships. For example, if network agency appears as an important variable, then we need to identify which components of the network agency are dominant in the formation of the dialectical relationships.
- (ii) in which instances these variables/their components are the most influential.

Finding 2: Policy outcomes in the form of a series of decisions

Initially, there were three major policy outcomes: the grand policy objective of Ecofactorij as a sustainable business park and two policy instruments: the Zoning Plan and the Quality Plan. The grand policy objective was the result of past policy decisions of the Municipality of Apeldoorn, which, at the same time, interpreted the broader policy context on sustainable development. In fulfilling this objective, the Municipality of Apeldoorn launched two policy instruments: the Zoning Plan and the Quality Plan. In the efforts to fulfil the grand policy objective of developing the Ecofactorij as a sustainable business park and using the mentioned policy instruments, a range of dialectical relationships took place. Throughout these relationships, other policy outcomes came about in the form of a series of decisions.

In the making and revision of the Zoning Plan and the implementation of the Quality Plan, various opinions were raised. Actors had their own interpretations regarding some items. Modifications of the items of the Zoning Plan and the Quality Plan came about. The thematic policy outcomes of the quality plan had were interpreted in different ways by the network actors.

It can be argued that these major policy outcomes led the other policy outcomes to appear in the form of a series of decisions. These decisions were sometimes interim/incremental decisions and sometimes in the form of modified policies. Thus there was an intertwined relationship between policy outcomes in exerting influence on further policy outcomes (mainly in the form of policy decisions).

Finding 3: Network structure primarily has an indirect influence on the policy outcomes

It appeared that the influence of the network structure on the policy outcome is primarily indirect. This indirect influence of the network structure occurred via the network *agency* (actors), who were embedded in the *broader context*. In explaining how the policy outcomes came about, the most recurring dialectical relationship pattern leads to the following reformulation:

The indirect influence of network structure over the *policy outcome* goes through the *actors*, who are embedded in the *broader context*.

Overall, it could be argued that *network agency* plays a central role in the web of dialectical relationships, which are involved in the production of policy outcomes related to the Ecofactorij Business Park. Network agency, embedded in its broader context, plays a dynamic role in the formation and evolution of the network structure and the production of a series of policy outcomes. This is an iterative process; the dialectical relationships between different variables do not follow a fixed order; they vary per policy outcome. However, we can still sketch the major contours of how the revised model works based on the Ecofactorij case. Thus, this recurring pattern needs to be unpacked by seeking answers to the following questions: In which instances does this pattern occur? What components of the influential variables are crucial? Finding 3 can be unpacked in three consecutive steps, which are elaborated in Findings 4, 5 and 6 below.

Finding 4: Agency matters! Actors with interests and resources

Prominently, *network actors*, with their *interests* and *structural resources*, and their strategic interaction with the other actors, appear as crucial components of the network agency. As such, the Municipality of Apeldoorn (*actor*) had the *grand policy objective* of developing the Ecofactorij as a sustainable business park. In a way, the policy outcome was the result of past policy decisions, combined with the interpretation of the broader policy context around sustainable development. This grand policy objective fits well with the *interest* of the Municipality to ensure the economic viability of the City as well as to contribute to its sustainable development. In pursuing this interest, the Alderman has *political resources*; the

Department of Project development has *legal* and *financial resources*. The Ecofactorij project team of the municipal experts have the *expertise-based resources*. All the aforementioned resources have a structural nature as they stem from the position of the Municipality as the decision maker on the public policy issues of the City. The structural resources of the Municipality contributed to the institutionalisation of the policy network.

In addition to agency's role in formulating and executing the grand policy objective, there were other instances, led by agency: For example, the Municipality of Apeldoorn decided on the physical expansion of the Ecofactorij Business Park; introduced the Quality Plan and land price policy; and required in the Quality Plan that a PMC would be established by the resident companies of the Ecofactorij. The Quality Plan and the linked land price policy, which was the instrument enabled by the structural resources of the Municipality of Apeldoorn, imposed a structure on the implementation of these thematic policies. Other actors have been influential in the thematic policy fields. These were in the field of energy, transport, sustainability, and innovation, and were initiated and modified by the private enterprises (*agency*).

Finding 5: Actor is embedded in the broader context

It was stipulated in Finding 4 that actors were the starting point with their interests and resources. However, they might obtain some considerable impetus from the broader context. As such, the argument is confirmed that the actors are embedded in the broader context and they interpret the broader contextual factors. This was most evident in the realisation of the following policy outcomes in the Ecofactorij Business Park:

- (i) The grand policy objective of developing a sustainable business park. The broader policy context regarding the sustainable business parks and sustainable energy, as well as the spatial planning principle of keeping the urban and rural areas distinct, led the Municipality of Apeldoorn to come forward with the idea of the Ecofactorij. Thus, the grand policy objective was not only an accumulated consequence of a series of past policy decisions by the Municipality of Apeldoorn regarding business development in the city. It was also the process of industrial development (municipal policy context), and the sustainability paradigm evident at the national and provincial level, reflected in the local context, which shaped the Municipality's mindset to take this initiative.
- (ii) The changing sectoral focus of the Ecofactorij. Broader contextual factors such as macroeconomic recession, the moving of the industrial sector away from the Netherlands and the reluctance of companies to relocate contributed to a business climate, which made the Municipality of Apeldoorn consider opening of the Ecofactorij to the transport and logistics sector.
- (iii) The changing spatial use percentages and building heights. The national policy context on sustainability and intensive spatial use had an impact on

- the ongoing debates regarding spatial use percentages and building heights in the Ecofactorij. Sustainable development associated with a green image was evident in the attitude of the Municipality as it favoured non-intensive spatial use in the Ecofactorij Business Park. Environmental NGOs favoured higher density spatial use due to its environmental benefits, whereas private enterprises and the Chamber of Commerce favoured the intensive spatial use idea due to economic concerns.
- (iv) Energy projects. The position of sustainable energy was high on the policy agenda starting from international to the local level; and national subsidies were available. Besides, CO₂ neutrality by 2020 was one of the goals of the Municipality of Apeldoorn.
 - (v) The stagnating relocation decisions of two companies. This was due to the influence of macroeconomic recession on the business of one of the companies; and influence of pig disease epidemic in the business of another company, which intended to relocate in the Ecofactorij.

Finding 6: Strategic interaction of the actors, embedded in the broader context, influence the network structure

Earlier, interests and resources were mentioned as the major components of network agency. They help positioning the actors in the web of relations. However, I argue that interests and resources are the static components of the network agency. It is the interdependence between the actors, which bring them together in a policy network. These interdependencies, often called as 'resource-dependencies' in the literature, form the backbone of the connections in a policy network. In addition to the static components, actors have another component of agency, which brings dynamism to the network, that is, the actors' strategic interaction. This means that, once the actors start acting upon their interests, by using their resources, in other words, once they start strategically interacting with each other, we can then talk about the formation of or a change in the policy network (*structure*). Instances where strategic action clearly contributed to the network structure are: (i) the Municipality of Apeldoorn, the Province of Gelderland and Reesink, forming the policy community at the network formation stage; (ii) peripheral actors who contributed to shift the policy network towards a looser direction i.e. environmental organisations expressing opinions during the making and revision of the Zoning Plan; the Chamber of Commerce; and the lobbying companies.

Other examples to strategic action are: *strategic learning* of the Municipality not to change the Quality Plan in order not to get involved in legal disputes with the park residents; *strategic calculation* of the private land owner annex Ecofactorij to buy the particular piece of land adjacent to Ecofactorij; *bargaining* within the Ecofactorij project team that in return for the enlargement of the Ecofactorij land, the municipal Department of Project Development pays compensation to the Department of the Environment.

Finding 7: 'Membership' and 'Integration' influence the network shape

When we examine the determinants of the network shape, it appeared that *membership* and *integration* of the actors within a policy network are more influential whether we call it a policy community or an issue network (As a matter of fact, this was also evident in the case studies of Marsh-Rhodes edited collection of 1992). This can be explained as follows:

The Rhodes and Marsh continuum identified the characteristics of the policy networks based on their membership, integration, resources, and power. In all stages, all actors had resources specific to their own nature [e.g. environmental organisations and citizens with organisational resources (number of members) and legal resources (public participatory rights) to object and appeal; companies with financial resources, etc.]. The presence of all these resources, accompanied with varying interests, contributed to resource dependencies between the actors, thus leading to a power dependence game, which was far from a zero-sum game. These particular characteristics help to distinguish between different network types, such as the policy community and the issue networks at the two ends of the Marsh-Rhodes continuum. After close examination, in the Ecofactorij case it appears that 'membership' and 'integration' characteristics contribute more to determine how network shape moves along the continuum than 'resources' and 'power'. I argue that the interests held by the members of the network (economic, professional, and environmental) (membership) and the coherence of their values (integration) made a relatively bigger difference, having an immediate influence on the network shape.

Finding 8: Policy outcomes influence the network structure

Regarding the impact of the policy outcomes on the network structure, the role of the policy instrument, specifically the Zoning Plan is remarkable: the Municipality of Apeldoorn had the legal competence (backed up by structural resources) to initiate the Zoning Plan (and the Quality Plan) as regulatory instruments. The launching of these instruments in order to fulfil the grand policy objective of a sustainable business park, facilitated the institutionalisation of the core of the policy network and the position of the Municipality of Apeldoorn as the core actor. Especially the procedures of the Zoning Plan, as imposed by the Spatial Planning Act – related to its making and revision – involved the participation of various actors, thus enlarging the scope of the policy network and loosening the structure away from a policy community.

A final word

The overall conclusions indicate that it all started as a one-actor project based on past policy decisions: the Ecofactorij as a sustainable business park was an initiative of the Municipality of Apeldoorn. In the evident interdependence between the policy network and the policy outcomes, the relationships between the network structure and the policy outcome was indirect. The interrelationships between the network structure and the policy outcome took place via network

agency, holding interests and resources, interpreting the broader context and strategically interacting with each other.

Chapter 7

Producing energy at the Ecofactorij Business Park by poultry manure incineration: The Fibroned case

Producing energy at the Ecofactorij Business Park by incinerating poultry manure has been an idea almost as old as the business park itself; and appeared as the most controversial topic throughout the life cycle of the Ecofactorij.

This investment idea was put forward in 1999 to the Municipality of Apeldoorn by Fibroned, a UK-Dutch joint venture and received well by the Municipality, resulting in an agreement between the two parties. However, the official procedures which followed, involved ongoing controversial debates between various stakeholders. As such, a number of processes recurred twice. These were:

- (i) Fibroned's request for an environmental permit from the Province of Gelderland;
- (ii) the rising public opposition to the granted environmental permit, which led the opposed parties to apply to the Administrative Jurisdiction Division of the Council of State⁹⁷ (hereafter: the Council of State), with the request to revoke the permit due to its content; and
- (iii) an eventual revocation of the environmental permit, not due to its content but first on procedural grounds, and second due to an outdated law.

In March 2005, the second environmental permit granted was again revoked by the Council of State. It goes without saying that throughout these processes, hot debates took place between various stakeholders who counter-interacted intensively from time to time.

Since March 2005, Fibroned has been busy with a new request for an environmental permit. The debates have slightly cooled down for the time being; however, the societal discomfort which had remained to a large extent on 'stand-by' mode, seems to be ready to take off as soon as the third request is officially submitted.

⁹⁷ *Afdeling Bestuursrechtspraak, Raad van State.*

In this chapter, I put a magnifying glass on this specific issue in the Ecofactorij. As such, I examine the interaction between policy networks and policy outcomes related to Fibroned's investment proposal to establish a bio-energy plant in the Ecofactorij and its request for an environmental permit from the Province of Gelderland. During this process, certain policy outcomes were produced. This case is embedded within the Ecofactorij case, which was dealt with in Chapter 6 as a municipal attempt to develop a sustainable business park where there were strong indications for policy networks analysis. The Fibroned proposal for poultry manure incineration with the goal of producing energy in the Ecofactorij deserves attention in a separate chapter, since it appears as a nested case, yet it is different. There is evidently a policy community and an issue network specifically related to the Fibroned case. In addition, the set of legal procedures related to granting an environmental permit, provided a structure for the authorities to follow in which the other stakeholders could participate. These procedures not only indicated the path they would follow in the policy-making process but also helped to establish the positions of the policy community and issue network.

This embedded case study of poultry manure incineration at the Ecofactorij consists of an analysis, following the four-steps of operationalisation as suggested in Chapter 5, and empirically applied in the Ecofactorij case in Chapter 6).

In Section 7.1, the networking stages related to the Fibroned case are established. This section provides a longitudinal approach in presenting how the idea of poultry manure incineration at the Ecofactorij as an alternative source of energy production led to the formation of two sub-networks, and how they evolved over the course of time. Drawing the contours of the networking stages will also highlight how the network shape evolved. Ultimately, the different stages of networking will be linked to the shape of the network.

Section 7.2 focuses on the policy outcomes; and eventually links them to the policy network. This analysis will first define the policy scope. The 'ideas' regarding poultry manure incineration played a prominent role in forming the policy scope by creating controversial debates and shaping them, thus contributing to the policy outcomes, as well as to defining the position of actors. Therefore, the ideas, leading to divisive ethical and policy debates will be delineated. Subsequently, based on this ideational context, policy outcomes will be identified. Policy outcomes, as such revolved around a major policy objective and a major policy instrument. The major policy objective is to produce green energy in the Ecofactorij by means of poultry manure incineration and other types of biomass. The policy instrument entailed to the granting of the environmental permit, based on the Environmental Management Act. In the effort to realise this policy objective by making use of the policy instrument, policy outcomes came about, which involved granting and revocation of the environmental permit.

In Section 7.3, the analysis is centred on the specific policy outcomes, which were already identified in Section 7.2. As such, the dialectical relationships between the network agency, network structure, the broader context, and the other policy outcomes in relation to each identified policy outcome, are analysed.

Section 7.4 undertakes an analysis of the dialectical relationships across all policy outcomes. This last level of analysis aims to explain the interdependence between the policy network and the policy outcomes through the lens of the dialectical relationships. In this analysis, the dialectical relationships between network agency and network structure; between network and context; and between network and policy outcomes will be examined.

Section 7.5 contains the synthesis of the findings of all the operationalisation steps. Following that it is discussed how the revised dialectical model works, based on the policy network around the investment proposal of Fibroned in the Ecofactorij Business Park.

The Fibroned Case

Operationalisation Step 1

**Linking the networking stages and
the network shape**

7.1 Linking the networking stages and the network shape

7.1.1 Networking stages

7.1.1.1 Network formation stage, 1999 - December 2000⁹⁸

Fibroned, a UK-Dutch joint venture, approached the Municipality of Apeldoorn in February 1999 and came up with a plan to build a bio-energy plant, where the firm proposed to produce energy by incinerating poultry manure. Fibroned wanted to move into the Ecofactorij Business Park on the East of Apeldoorn City. This location was near the state highways, i.e. 350 m away from A1 and 1.5 km from A50 (StAB⁹⁹, 2002); and the nearest residential area was at a distance of about 500 m (StAB, 2004).

Fibroned was interested in investing in the City of Apeldoorn and in the location of Ecofactorij for the following reasons:

- i) The ambitions of the Municipality of Apeldoorn in the field of sustainable energy (reaching a CO₂ neutral status in 2020);
- ii) The possibility for the efficient use of all the produced energy, by means of delivering heat to the city heat system and to the other companies in Ecofactorij;
- iii) The possibility of utility sharing in the Ecofactorij;
- iv) The easily accessible location of the Ecofactorij Business Park; and
- v) The physical proximity of the Ecofactorij to the poultry manure producers (Correspondence with Pol Knops, April 2010).

The intention of Fibroned to invest in a bio-energy plant at the Ecofactorij was received well by the Municipality of Apeldoorn for two reasons. These were: i) the energy policy of the Municipality of Apeldoorn, which was based in the broader context of international, EU and national steps; and ii) the match between the goals of the Municipality of Apeldoorn and those of Fibroned.

Regarding the first reason, the positive reaction of the Municipality of Apeldoorn to the Fibroned proposal was due to its goal of sustainable energy. This goal of the Municipality was in line with a number of emission reduction goals at the EU and national levels. As such, the Netherlands was committed to reduce greenhouse gas emissions by 6 per cent between 2008 and 2012 in comparison

⁹⁸ **Policy network formation stage: start:** Fibroned approaching the Municipality of Apeldoorn in 1999; **end:** environmental permit request of Fibroned, submitted to the Province of Gelderland on 5 December 2000.

⁹⁹ StAB (*Stichting Advisering Bestuursrechtspraak voor Milieu en Ruimtelijke Ordening*) is the Netherlands Foundation for Advice to the Council of State. It is a private foundation, with a budget of its own and funded by government subsidies. Upon request, it provides technical consultancy for the Council of State, which is the highest administrative court in the Netherlands with general jurisdiction (<http://www.stab.nl>).

with 1990, based on the Kyoto Protocol. In the longer term, national goals were set for 2020, in line with the goals at the EU level, in order to:

- i) reduce greenhouse gas emissions by 30 per cent in 2020 in comparison with 1990;
- ii) save energy by 2 per cent per year; and
- iii) reach a share of sustainable energy by 20 per cent in the total energy supply in 2020 (Commissie MER¹⁰⁰).

Within this broader context, the Municipality of Apeldoorn set the aim in 2001 to reach a CO₂-neutral status in its built environment by 2020. This meant that by then the energy consumption would be based on 100 per cent sustainable energy. As an intermediate goal in realising this ambition, Apeldoorn aimed to reach 40 per cent energy-neutrality by 2015 (Gemeente Apeldoorn, 2010:33-35).

In addition to the national and municipal policy context related to sustainable energy, the aim of Fibroned also conformed to the ambition of the Municipality to develop the Ecofactorij as a sustainable business park (Interview with Peter Scherders, October 2010). In this respect, Fibroned aimed to produce energy by incinerating annually about 280,000 tons of poultry manure and roughly 80,000 tons of other biomass such as wood/compost overflow, flower bulbs, animal feather and hair, other organic residues and vegetable oil/rape seed oil as start-up fuel. The produced energy would be in the form of: i) *electricity* (roughly 240 GWh electricity, which would be sufficient to heat about 60,000 houses); ii) *high-value heat*¹⁰¹ (80 GWh high value heat, sufficient to heat about 6,000 houses); and iii) *low-value heat*¹⁰². In addition to energy, about 60,000 tons of ash as a result of the incineration process would be used as basis for fertilisers (Fibroned, 2007).

This encouraging start-up of the energy production idea at the Ecofactorij by poultry manure incineration was taken a step further by a visit during late 1999 to the Thetford Power Plant in the UK, a sister company of Fibroned. The officials from the Municipality of Apeldoorn and the Province of Gelderland were invited by Fibroned to make a technical visit in order to get an idea of how a similar energy plant would function without creating adverse environmental effects.

As a result of this visit, both the Municipality of Apeldoorn and the Province of Gelderland officials were convinced about the feasibility of such a plant. Therefore, the Municipality and Fibroned reached an agreement in the late 1999.

¹⁰⁰ *Milieu Effect Rapportage* (Environmental Impact Assessment). Information retrieved from: <http://www.commissiemer.nl>

¹⁰¹ High-value heat refers in general to heat with a higher temperature than 100 °C, so this can be used, for example, for the production of electricity (Correspondence with Pol Knops, November 2010).

¹⁰² Low-value heat refers to heat which is less than 100 °C and can not be used for producing electricity, but can be used instead for district heating (Correspondence with Pol Knops, November 2010).

Fibroned was welcome to locate in the Ecofactorij Business Park as a sustainable energy producer; therefore, space was allocated for them, which would eventually be next to the premises of Grolleman Coldstore, which would move into the Ecofactorij in 2003.

The kick-off phase of the investment proposal went rather smoothly but it would appear soon afterwards that this was only the calm before the storm.

Following the agreement with the Municipality of Apeldoorn, Fibroned needed to prepare an Environmental Impact Assessment (EIA) report; and then submit a request for an environmental permit to the Province of Gelderland¹⁰³, as well as a request for a construction permit to the Municipality of Apeldoorn¹⁰⁴.

Accordingly, on 23 December 1999, Fibroned submitted a request to the Province of Gelderland for an 'establishment permit in order to start an EIA procedure'¹⁰⁵; and hired Consultancy Company A to make the EIA report. Upon the completion of this report, in December 2000 Fibroned submitted a request to the Province of Gelderland for an environmental permit (see below in this section).

During this period, the early seeds were sown regarding the concerns about Fibroned's investment proposal, during a symposium in October 2000, organised by Social Partners Gelderland and the Green Left¹⁰⁶ political party. As discussed earlier in Chapter 6 (see Section 6.1.3), the theme of this symposium was about sustainable business parks, and, during the presentation of Alderman Bolhuis of Apeldoorn, in which he introduced the idea of the Ecofactorij as a sustainable business park, questions were raised as to whether the poultry manure incineration idea was compatible with the vision for Ecofactorij Business Park.

¹⁰³ According to the Dutch Waste Incineration decree (*Besluit Verbranding Afvalstoffen - BVA*) based on EU Guidelines 2000/76; enforced on 15 April 2004, a thermal capacity of 75 megawatts is the limit determining whether the provincial government or the municipal government handles the request by an incineration centre for an environmental permit. For installations with more than a thermal capacity of 75 megawatts, it was the provincial government which handles the environmental permit process, whereas the municipal government dealt with the construction permit. However, since the issuing of the General Provisions Act for the Environmental Permit (*Wet Algemene Bepalingen Omgevingsvergunning - WABO*), on 1 October 2010, the provincial government has dealt with both permits for the installations of 75 thermal megawatt or more. And the position of the Municipal administration is limited to an advisory role.

¹⁰⁴ Both permits could have been requested at the same time, but, it was more practical to ask for the environmental permit first and, once granted, then to ask for the construction permit from the Municipality since the latter would not be valid without the former. In fact, the Municipality required a number of other permits, including the construction permit, i.e. **BRIKS** (*Bouwvergunning* (construction permit), *Reklamevergunning* (advertisement permit), *Inrittenvergunning* (driveways permit), *Kapvergunning* (cutting permit), and *Sloopvergunning* (demolition permit) (Interview with Teun Achterkamp, October 2010). However, they do not fall directly in the scope of this research.

¹⁰⁵ In Dutch: *start MER procedure oprichtingsvergunning*.

¹⁰⁶ *Groenlinks*.

On 5 December 2000, Fibroned submitted its EIA report and requested for an environmental permit. This led to the new stage in the networking, as discussed below.

7.1.1.2 Network expansion stage, December 2000 – October 2001¹⁰⁷

Upon Fibroned's request for an environmental permit, the Province of Gelderland was placed at the centre of the official procedures because of its role as the competent authority¹⁰⁸ for granting an environmental permit. This made the Province of Gelderland undertake a neutral position, thus shifting away from the policy community. The Province of Gelderland was involved in this process with its three inherent actors. As such, the Provincial Executive¹⁰⁹ holding the portfolio of economy and environment was the politically responsible person for handling the request. At the administrative level, the Department of the Environment and Water executed the policies. In practice, a technical team, composed of a project manager, technical expert and a judicial expert, was in charge of the environmental permit procedure.

In the Dutch public administration tradition, the process of submitting an EIA report with a request for an environmental permit, and, subsequently, the granting of an environmental permit, involves various procedures and stages in which public participation is made possible. The EIA report of Fibroned, submitted on 5 December 2000 with a request for an environmental permit, was opened to public review from 11 January to 8 February 2001. During this same period a public hearing¹¹⁰ was also conducted on 1 February 2001.

During the public review period of the EIA report, the *Vereniging Milieu-Offensief*¹¹¹ approached the Council of State in February 2001. This association also represented *de Stichting Wakker Dier*¹¹² (hereafter, the Foundation for animals' well-being). As a result of their reaction, a complementary and corrected

¹⁰⁷ **Network expansion stage: start:** environmental permit request of Fibroned, submitted to the Province of Gelderland on 5 December 2000. **end:** granting of the first environmental permit on 16 October 2001.

¹⁰⁸ In Dutch: *bevoegd gezag*.

¹⁰⁹ *Gedeputeerde Staten*.

¹¹⁰ In Dutch: *openbare zitting*.

¹¹¹ ***De Vereniging Milieu-Offensief*** (VMO) is a relatively small but active environmental protection organisation, which exists since 1992. It aims to limit the damage to the living environment caused by intensive cattle breeding, particularly by taking part in the participatory procedures. Most of the work of VMO is directed towards municipalities in what are called the manure surplus areas (in Dutch: *mestoverschotgebieden*) with much bio-industry, which, according to VMO, puts an extra burden on the environment by the production of manure and ammoniac (The *Vereniging Milieu Offensief* does not have a website. This information is retrieved from: http://nl.wikipedia.org/wiki/Vereniging_Milieu-Offensief).

¹¹² ***De Stichting Wakker Dier*** (the Foundation for animals' well-being) is an organisation which aims to promote the well-being of the animals. The foundation argues that the animals in the bio-industry live in pitiful circumstances; and tries to take action against this situation; stimulates organic cattle breeding; and promotes vegetarian nutrition. They give information to consumers and try to take action against the situation. Retrieved from: <http://www.wakkerdier.nl/>

version of the EIA and the request for an environmental permit was submitted in April 2001. Based on that, the first draft version of the permit was opened for public review in the period 3-31 May 2001. During this period, a public hearing was held on 23 May 2001 in order to review the first draft version. The emission levels were publicly contested in this public hearing.

During the network expansion stage, two more versions of the draft environmental permit were prepared by the Province of Gelderland. This process involved controversial debates, reflecting fierce public opposition. The Environmental Federation of Gelderland¹¹³ was a part of this debate, especially expressing its opinion regarding the draft permits of the Province. The Environmental Federation of Gelderland disagreed in the first instance with the incineration style, and argued that the installation did not involve the best available technique for preserving the air quality. For them, the proposed emissions levels of Fibroned were still too high, and better technology was available (Interview with Maarten Visschers, September 2010). However, the main argument of the Environmental Federation of Gelderland was in fact that it was against incineration, but it supported the idea of using the manure as fertiliser. This viewpoint primarily reflected their critical attitude to the existing practice of the poultry industry (for further discussion on this, see Section 7.2.1.2). the Foundation for animals' well-being had concerns about the poultry sector on account of the conditions in which the animals were kept and the level of meat production. Under these circumstances, the incineration of poultry manure would only mean facilitating industrial poultry farming.

The second draft version of the environmental permit was published in August 2001 and opened for public review during the period of 2-30 August 2001. However, the Environmental Federation of Gelderland found out that the draft permit had not been properly announced – since, according to the procedures, it needed to be announced by the Municipality of Apeldoorn. Owing to this procedural mistake, the second draft version was cancelled (Interview with Maarten Visschers, September 2010).

Finally, a third draft version of the permit was produced and made available for public review during the period 13 September – 11 October 2001. Based on this basis, the Province of Gelderland approved the final version of the environmental permit on 16 October 2001. Having been granted this environmental permit, Fibroned would be able to establish an incineration centre as an annex to an

¹¹³ **The Environmental Federation of Gelderland** (*Gelderse Milieu Federatie*) is a member of the Provincial Environmental Federations of the Netherlands, based in Gelderland. The Environmental Federations have the goal of a more beautiful, healthier and more sustainable Netherlands. Together with the 11 other Environmental Federations, the Environmental Federation of Gelderland forms a national network. These federations work closely together with the Netherlands Society for Nature and the Environment. The instruments they use in order to reach their goals are: lobbying and dialogue; stimulating citizen participation; providing information; supporting the voluntary organizations; media pressure and sometimes juridical action. Retrieved from: <http://www.geldersemilieufederatie.nl/>

energy centre at the Ecofactorij Business Park where 385,000 tons of poultry manure and comparable clean biomass (per composition) such as cocoa shells, coffee grounds, wood chips etc., would be incinerated (StAB, 2002; StAB 2004) in order to produce 33 megawatts of electricity and a substantial amount of heat (Correspondence with Pol Knops, January 2011).

7.1.1.3 Network reconstitution I, October 2001 – March 2003¹¹⁴

During a period of about one and a half years, a number of developments took place, which led to the first reconstitution of the policy network. The starting point was the granting of the environmental permit on 16 October 2001. Soon afterwards, the environmental permit was made available for public review during the period 25 October – 6 December 2001.

In this public review process, the Environmental Federation of Gelderland (also on behalf of the Netherlands Society for Nature and the Environment¹¹⁵ and the Environmental Care Working Group Foundation of Apeldoorn¹¹⁶), and *Vereniging Milieu Offensief* (also on behalf of the Foundation for animals' well-being, the Dutch Association of Veganism, and Volkert van der Graaf)¹¹⁷ submitted an appeal against the environmental permit to the Council of State. The Environmental Federation of Gelderland had identified 16 technical and 2 procedural issues; *Vereniging Milieu Offensief* identified 14 technical and 2 procedural issues about which they were uncomfortable. These items were, among others, related to: (i) insufficient protection of the environment against emissions; (ii) lack of adequate purification techniques; (iii) control-measurements; (iii) ash; (iv) ineffectiveness of the incineration; (v) lack of clarity about the substances to be incinerated; (vi) dry/wet substances of the manure capacity (vii) odour; (viii) noise nuisance.

Another reaction came from Prof. Lucas Reijnders, from the University of Amsterdam who sent a commentary to the Province of Gelderland on 22 November 2001 about the possible negative consequences of the proposed activities of Fibroned. In his letter, Prof. Lucas Reijnders stated that the emission levels were high and Best Available Technology (BAT) was needed. Specifically, baghouse with active carbon injection would help minimize in particular the mercury level (Reijnders, 2001).

¹¹⁴ **Network Reconstitution I stage: start:** granting of the first environmental permit on 16 October 2001; **end:** revocation of the first environmental permit on 5 March 2003.

¹¹⁵ **The Netherlands Society for Nature and the Environment (Stichting Natuur en Milieu)** is a Dutch nature protection and environmental organisation, aiming at a beautiful landscape, rich nature, and a healthy environment. The organisation is oriented towards strengthening the cooperation between the politics, companies, environmental organisations and other interest organisations related to environment. It works together with the Provincial Environmental Federations and carries out public actions. Retrieved from: <http://www2.natuurenmilieu.nl/home/>

¹¹⁶ *Stichting Werkgroep Milieuzorg Apeldoorn*.

¹¹⁷ The Foundation for animals' well-being and Volkert van der Graaf eventually withdrew (Raad van State, 2003b).

During this period, Henk Alderink was elected as the Provincial Executive, holding the portfolio of economy and environment (VVD, November 2001-November 2005).

Johan Vollenbroek, an environmental expert who owned a consultancy company, and who was an activist, joined the network in the first network reconstitution stage. At the same time, he was a member of the Contact Group of the Netherlands Society for Nature and Environment, together with Prof. Lucas Reijnders and three other members. This group met once every three months and discussed the cases in the Netherlands which they considered to be problematic. Thus, Fibroned became one of the cases that this Contact Group decided to deal with. Johan Vollenbroek had three concerns regarding the Fibroned proposal: (i) air pollution; (ii) incorrect calculations of the emission levels, also related to air pollution; and, mainly, (iii) poultry manure incineration, as the wrong track to follow in resolving the environmental problem of the poultry sector (Interview with Johan Vollenbroek, June 2010).

On 15 February 2002, the appeal request of the Environmental Federation of Gelderland and *Vereniging Milieu Offensief* (submitted in December 2001) was handled by the Council of State in the form of a provisional suspension¹¹⁸. The issues raised by the appellants were not found problematic. They were within the acceptable norms, and, therefore, the appeal was rejected.

On 25 February 2002, Fibroned submitted a request for an amendment in order to enlarge the scope of the permit. The aim was to include some other type of biomass streams such as compost overflow¹¹⁹ (Interview with Pol Knops, October 2010). Fibroned also acknowledged some mistakes made by Consultancy Company A, which they had hired, in the calculation of the emission levels in their EIA report. Therefore, a number of discussions took place between Consultancy Company A and Johan Vollenbroek.

The rising concern of the citizens about the possible environmental and health-related impacts of the activities due to an allegedly high level of emissions triggered the Council of State to give an assignment to StAB on 18 April 2002 to investigate all the technical items included in the appeal; and requested the Municipality of Apeldoorn to take further action. In response to this request, the Municipality of Apeldoorn hired Consultancy Company B, as an independent party, to recalculate the contested emission levels of Fibroned. These two assignments resulted in two reports in the summer of 2002: However, the findings of StAB indicated that all the issues of concern by the appellants were within the acceptable norms (StAB, 2002). The report of Consultancy Company B also pointed out that the emission levels of Fibroned's proposed activities would not pose any threat to the environment or public health (*Apeldoornse Courant* newspaper, 28/08/2002).

¹¹⁸ In Dutch: *voorlopige voorziening*.

¹¹⁹ In Dutch: *compost overflow*.

The final version of the amended environmental permit was fixed on 16 July 2002. During the period July 25 to 5 September 2002, the amendment in the final permit was made available for public review. Even though the permit was within technically acceptable limits, the citizens still had concerns. As a result, two groups of residents appealed. The Council of State did not agree with their reasons for concern (Raad van State, 2003a).

Overall, the issue began to attract more publicity in 2002. In the summer of 2002, the seeds were sown of a public initiative called 'Concerned Citizens of Apeldoorn'¹²⁰. This initiative was driven by the citizens' concern about air pollution and their fear of waste incineration (Interview with Edwin Kuijpers & Joke Pasman, April 2010). Concerned Citizens of Apeldoorn have been supported by two experts: Johan Vollenbroek, who would later be actively involved in the appeal processes; and Prof. Lucas Reijnders, from the University of Amsterdam. On their website, Concerned Citizens of Apeldoorn reflect the concerns enumerated by Johan Vollenbroek, Prof. Lucas Reijnders and also the Environmental Federation of Gelderland (for further discussion see Section 7.2.1.3). During the period 2002-2003, the media assumed a bigger role in the rising publicity. However, citizen initiatives were not yet actively involved in the appeal process.

Another issue which gained attention was related to the condition set for the length of the stack in the Ecofactorij Zoning Plan. While the Municipality of Apeldoorn had a condition for 45 m stack for a power plant, the EIA report of Fibroned indicated the need to have a stack of 90 m. This called for a change to be made in the Ecofactorij Zoning Plan. Municipal Council members belonging to Leefbaar Apeldoorn political party did not agree with this. Besides, they did their own research in August 2002 regarding the effects of Fibroned on the environment (*Apeldoornse Courant* newspaper, 10/09/2002).

In September 2002, an information meeting was held by the Municipality of Apeldoorn in which Alderman van Beckhoven of Apeldoorn (responsible for the environment), the Department of the Environment of the Municipality of Apeldoorn and the Neighbourhood Coordinator participated. At this meeting, the Province of Gelderland gave information about the environmental permit procedures. Consultancy Company B gave presentations about the emission and odour nuisance. Environmental organisations and citizens participated in the forum discussions (Gemeente Apeldoorn, 2002).

In November 2002, while there was a rising public opposition, Novem awarded Fibroned, energy company X, and the Municipality of Apeldoorn with the EPL (*Energy Performance on Location*¹²¹) 'Realisation Prize' of 2002. This was in

¹²⁰ *Bezorgde Burgers Apeldoorn*.

¹²¹ The EPL stands for Energy Performance on Location and is a measure of CO₂ emissions at the site, including the energy supply which was supplied for the site. This indicator has, according to the school grading system, a maximum of 10. With a grade of 10, the neighbourhood is CO₂

recognition of their proposal to deliver heat to the newly built neighbourhoods, i.e. Zonnehoeve and Zuidbroek¹²².

The process leading to the revocation of the environmental permit was triggered in December 2002 when a meeting for the 'procedure on the merits'¹²³ was held by the Council of State. At this meeting, there was a tough discussion between seven and ten participants, including three judges of the Council of State and the representatives of the Province of Gelderland, the Foundation for animals' well-being and the Environmental Federation of Gelderland. As a result of this meeting, the prevalently agreed idea was that the 'citizens were not well informed'. The citizens mistrusted the information provided by Fibroned (triggered by the mistakes in the calculations) and the Province of Gelderland.

NGOs and citizens in Apeldoorn who criticised the lack of transparency and information about the Fibroned project complained to the Province of Gelderland. The complaints and objections were reviewed by an independent commission, i.e. the Complaints and Petitions Commission¹²⁴. In response to the societal restlessness in Apeldoorn, the Department of the Environment and Water of the Province of Gelderland commissioned research in order to assess the emission levels of various particles in the air. By 28 February 2003, the report 'Risk evaluation in the surroundings' was prepared. As a result of this research, no damage to the public health was identified as being due to the foreseen activities of Fibroned (Provincie Gelderland, 2003a:6). This report was distributed to all the parties involved, including the proponents and opponents of the case.

Evidently, the publicity, contesting the conformity of Fibroned's activities with the environmental regulations, was rising while the mistrust in the decisions of Province of Gelderland was not diminishing. On 5 March 2003, this permit was revoked by the Council of State. However, this was not because of any technical reason but due to a procedural issue. That is to say, this revocation was related to the fact that the Province of Gelderland had informed the residents living within 450 m. However, according to an odour emission research, in the worst case scenario, people within a radius of 1250 m could be affected by the odour (Correspondence with Cor Coenrady, September 2010). Since these citizens were not informed according to Article 13.4 of the Environmental Management Act, the environmental permit was revoked (Raad van State, 2003b).

neutral. That means, in the district at least as much electricity, gas or heat is generated than is consumed. In the EPL, each unit of energy is calculated separately. A surplus of renewable electricity can therefore not compensate for gas use. The EPL is applied in locations with more than 250 homes. Retrieved from: <http://www.nieuwsbank.nl/inp/2002/12/05/R112.htm>

¹²² *ibid.*

¹²³ In Dutch: *behandeling bodemprocedure*.

¹²⁴ *Commissie Klachten en Verzoekschriften*.

7.1.1.4 Network reconstitution II, March 2003-February 2004¹²⁵

Soon after the revocation of the first environmental permit on 5 March 2003, the issue was raised at the Provincial Executive Board meeting on 19 March 2003, in which the Green Left political party requested an interpellation debate about Fibroned; and a clarification regarding why the permit was revoked by the Council of State. In response to that, the legal section of the Province of Gelderland drafted a report on 9 May 2003 (Raad van State, 2003b).

As explained in that report, the environmental permit of Fibroned was revoked due to the violation of a procedural regulation, which was in conflict with Article 13.4 of the Environmental Management Act: according to the Law of General Administration¹²⁶, residents living in the 'direct surroundings' needed to be informed when the draft environmental permit was fixed. The term 'direct surroundings' would be interpreted by the competent authority but, finally, it would be the judge of the appeal procedure who would determine the range of direct surroundings. In the case of Fibroned, this range was determined by the competent authority as 450 m. This was based on the range which would experience some nuisance due to the normal business conditions. The Council of State judged that the area defined as direct surroundings was too small. They concluded that, with a comparable establishment, the odour would be perceivable within a distance of about 1250 m in the worst-case scenario. The appeal authority thus judged that the way the Province of Gelderland had dealt with the extent of the expected environmental disadvantages was in conflict with the Article 13.4 of the Environmental Management Act (Provincie Gelderland, 2003b).

The revocation of the first environmental permit obviously caused frustration. The Commission of Economy and Environment¹²⁷ of the Province Gelderland, in their monthly meeting on 14 May 2003, discussed the state of the art of the Fibroned case and the viewpoints of different political parties. Additionally, the Province of Gelderland held an internal meeting in May 2003 in order to analyse the underlying reasons of the revocation of the environmental permit. In order to support the process, in which the next request for an environmental permit would be assessed, the Province of Gelderland decided to hire an external project manager and a technical expert from Consultancy Company C, who would work together with the existing project team made up of the provincial experts (Interview with Cor Coenrady, September 2010).

¹²⁵ **Network reconstitution II stage: start:** revocation of the first environmental permit on 6 March 2003; **end:** granting of the second environmental permit on 3 February 2004.

¹²⁶ *Wet Algemene Bestuursrecht*.

¹²⁷ The Commission of Economy and Environment is composed of a selected group of Provincial Parliament members who are responsible for the pre-decision making and controlling of the Provincial Executive in subjects related to the economy and environmental protection. This commission meets every month, a week prior to the meeting of the Provincial Parliament. The outcome of this meeting has an impact on further steps because they advise the Provincial Parliament members; and, control the Provincial Executive and the Provincial Alderman who is politically responsible for the decision to grant a permit.

On 19 May 2003, a meeting was held at the Province of Gelderland with the Fibroned representatives, Johan Vollenbroek, Concerned Citizens of Apeldoorn, the Province of Gelderland, and experts from Consultancy Company C. At this meeting a verbal agreement was made with Fibroned about the new table of emission levels. Fibroned made a new complementary application during the period 22 May – 5 June 2003. On 11 July, 2003, more strict emissions were discussed between Fibroned, the Province of Gelderland and Concerned Citizens of Apeldoorn. However, in September 2003, it was found out that these emission levels were not being achieved by Fibroned. This created high tension and a rising level of concern from the citizens and the environmental movement (see below) (Interview with Cor Coenrady, September 2010). At the Fibroned side, there were two reasons for this: *First*, because the contractor did not agree to guarantee achieving these levels on an hourly basis; and, *second*, the lawyers had concerns about the legal implications as they were questioning whether a lower tier of government (i.e. the provincial government) would be able to impose stricter emission levels than the national government (Correspondence with Pol Knops, January 2011).

On 17 November 2003, Concerned Citizens of Apeldoorn visited the Province of Gelderland regarding the environmental permit of Fibroned. They had concerns about the emission levels; about the effects on the health and environment in the short and long term; and about the alarming messages of the environmental experts. They doubted about the objectivity and expertise of Consultancy Company A in measuring the emission levels of Fibroned; therefore, had little trust in the emission data declared by Fibroned; and, at the same time, feared about poultry manure incineration and other biomass. Meanwhile, based on the report of Consultancy Company B (hired by the Municipality of Apeldoorn), the contribution of Fibroned to the background percentage concentrations of sulphur dioxide (SO₂), mercury, cadmium, arsenic, dioxins, etc. were found to be far less than the percentages found in the research of Johan Vollenbroek. At the same time, Concerned Citizens of Apeldoorn, supported by Prof. Lucas Reijnders, Johan Vollenbroek, and the Apeldoorn Socialist Party gained 5000 supporters in Apeldoorn. About 40,000 protest cards were distributed, and 4000 petitions were presented to the Provincial Executive Member, Henk Aalderink¹²⁸

On 22 December 2003, *Stentor*¹²⁹, the regional newspaper, published an article, criticising the less strict values evident in Fibroned's emission table. First, a stricter level of the emission values was agreed upon at a meeting between Concerned Citizens of Apeldoorn and Henk Aalderink, the Provincial Executive member. However, later, in the light of less stringent standards set nationally by the Waste Incineration Decree (BVA), the Province seemed to be moving backwards, i.e. to less stringent standards. Therefore, the Province's intention to set these standards less stringently than originally intended, sparked a public

¹²⁸ Information retrieved from: <http://www.apeldoorn.sp.nl>

¹²⁹ The former *Apeldoornse Courant*.

reaction. Concerned Citizens Apeldoorn reacted to this with an e-mail to Henk Aalderink in December 2003.

Looking back over this process, the Province of Gelderland wanted to make sure that the preliminary talks with the public would take place properly, so that the second attempt for the environmental permit would not end up yet again at the Council of State. In these talks citizens expressed their concerns, and experts expressed their ideas. However, since these talks did not take place within a legal context, they did not bind the decisions taken. This was difficult for the citizens to accept. Ultimately, the Province was not in a position to require higher standards than the legally allowed ones (Interview with Henk Aalderink, October 2010).

Despite much turbulence, the second environmental permit was granted on 3 February 2004.

7.1.1.5 Network reconstitution III, February 2004-March 2005¹³⁰

Once the second permit was granted, it was made available for an official period of public review during the period 26 February – 8 April 2004.

There were a number of appealing parties, including the Municipality of Voorst, two private companies, three environmental organisations, and 10 private persons.

The items of their appeal were as follows:

- Procedure, related to the Pollution of Surface Waters Act;
- Sufficiency and consistency of the EIA;
- Odour hindrance;
- Emissions / *stand der techniek* (IPPC¹³¹/BAT/ALARA);
- Noise hindrance; and
- Other aspects: external safety; waste, spreading of the viruses.

On 24 May 2004, a meeting was held to discuss the provisional suspension of the environmental permit. On 16 June 2004, the Council of State issued the decision¹³² of suspension¹³³ as a result of the provisional suspension (Raad van State, 2004).

The Province of Gelderland wrote a defence on 23 June 2004. On 30 June 2004, the Council of State turned to StAB for expert advice. In response to this request,

¹³⁰ **Network Reconstitution III stage: start:** granting of the second environmental permit on February 3, 2004; **end:** cancellation of the second environmental permit on 22 March 2005.

¹³¹ Integrated Pollution Prevention and Control.

¹³² In Dutch: *uitspraak*.

¹³³ In Dutch: *schorsing*.

StAB made a report on 30 September 2004, which indicated that the appellants' issues of concern were within the acceptable norms.

In order to ease the communication process, the Province of Gelderland hired a private mediator at the roundtable meetings between Fibroned and the Province, on one side, and the Environmental Federation of Gelderland, Johan Vollenbroek and Concerned Citizens of Apeldoorn, on the other. However, these efforts did not bear fruit (Interview with Maarten Visschers; September 2010; Interview with Henk Aalderink, October 2010).

The second 'procedure on the merits'¹³⁴ of the Council of State took place on 9 December 2004. It was a tough discussion lasting about 5.5 hours. There were 10 people and organisations who had appealed to the Council of State on a number of issues, such as the EIA; applicability of the Surface Water Pollution Act (*WVO*¹³⁵); odour; flue gas purification¹³⁶; emission limits; air quality decree; emission of fluoride; and application of the ash residues in the artificial fertiliser industry. All these points were expressed by the legal experts of the Province of Gelderland in a report to the Provincial Executive and to the management team of the Department of Water and the Environment (Interview with Cor Coenrady, September 2010).

On 21 February 2005, an evaluation report was drafted regarding the influence of Fibroned's odour immissions in the Ecofactorij due to the wind turbines. On 14 March 2005, Fibroned requested that the suspension should be lifted.

However, the second environmental permit was revoked by the Council of State on 22 March 2005. The reason for this revocation was clearly expressed in the Memorandum¹³⁷ of the Province of Gelderland (Provincie Gelderland, 2005). According to the Council of State, Fibroned proposed to burn up fuels with a thermal capacity of 110 megawatts and therefore belonged to the category of companies which were highly likely to create noise nuisance. Such companies with potentially big noise-generating capacity could only legally be established in only those business parks where special permission could be granted; and which are included in the noise zones as identified by the National Noise Nuisance Act. Since this permission was not given to the Ecofactorij Business Park, it was not possible to establish the proposed plant in the Ecofactorij. As a result of this, Fibroned made a written request to the Municipality of Apeldoorn in March 2005 that a change be made in the Zoning Plan of the Ecofactorij which would make it possible to establish Fibroned.

This revocation, which occurred for the second time, resulted in the dissolution of the project team made up of provincial experts and the experts of Consultancy

¹³⁴ In Dutch: *bodemprocedure*.

¹³⁵ *Wet Oppervlaktewateren*.

¹³⁶ In Dutch: *rookgasreiniging*.

¹³⁷ *Statennotitie: Fibroned, Vergunning Wet Milieubeheer PS2005-672*.

Company C. In order to support the environmental permit process, an external expert was hired from Company D (Interview with Cor Coenrady, September 2010).

7.1.1.6 Network stagnation, March 2005 - present

This was a period when the trust issue was taken seriously. Following the revocation of the second environmental permit, Fibroned still wanted to continue with their investment idea. Therefore, in the summer of 2005, first a pre-meeting was held between Fibroned and the Province. For the sake of transparent follow-up procedures, on 17 March 2006, Fibroned withdrew its request for a permit in accordance with the Dutch Environmental Management Act dated December 2000 and the concomitant EIA report. On 27 April, the Province received the new start-up notification of Fibroned. The public review period was from 15 May to 26 June 2006. In this period, nine sets of opinions¹³⁸ were submitted and the Commission for the EIA gave advice on the EIA guidelines¹³⁹. On 22 August 2006, the Provincial Executive fixed the EIA guidelines so that Fibroned could request an environmental permit accordingly.

The Province of Gelderland wanted to make the process of a renewed request for an environmental permit to be as transparent as possible. Therefore, they created a link on their website¹⁴⁰ to Fibroned as of May 2006.

During May 2006, the citizens were informed about the start-up memorandum by means of an article in the newspaper. There were eight sets of opinions received from the following: the Environmental Federation of Gelderland, Johan Vollenbroek, the Environmental Care Working Group Foundation of Apeldoorn, the Green Left political party (a political fraction on the Municipal Council of Apeldoorn), the Municipality of Voorst, a private company from Apeldoorn, and 2 private persons. The Province communicated these opinions to the legal advisors at the EIA Commission, the Water Management Body and the Municipality of Apeldoorn, as well as to Fibroned.

In July 2008, Consultancy Company A conducted research on the request of the Province of Gelderland into the interaction of wind turbines and the emissions of Fibroned.

Since December 2008, no formal correspondence has been received by the Province of Gelderland from Fibroned. There were only informal preliminary talks (Correspondence with Pol Knops, January 2011). However, an internal activity took place on 12 April 2010 when the contents of the EIA report were examined by the Province of Gelderland. The result of this examination was positive,

¹³⁸ In Dutch: *zienswijze*.

¹³⁹ In Dutch: *richtlijnen*.

¹⁴⁰ Source: <http://www.gelderland.nl>. This link no longer exists. The Province of Gelderland intends to re-activate the website once the new environmental permit process of Fibroned re-starts.

confirming that the concept EIA report was in line with the procedures. Therefore, a final version of the EIA and a new request could be submitted (Interview with Teun Achterkamp, October 2010).

While the new environmental permit process was at a stand-still, other developments took place in the broader context. As such, the Provincial Environmental Federations and the Netherlands Society for Nature and the Environment wrote a report in 2008, which was subsidised by the Ministry of Economic Affairs. This report involved findings of research on biomass as an energy source against climate change. As such, the report questioned what type of biomass would be more sustainable than another on a scale, ranging from 'worse than fossil' to 'very beautiful pure green'¹⁴¹. Poultry manure was rated in the 'worse than the fossil' category (Provinciale Milieu Federaties & Stichting Natuur en Milieu, 2008). Another citizen initiative started in 2009 (see fibronot.nl).

According to an article in Stentor (26/01/2009), Fibroned was going to apply for an environmental permit within a few weeks from the Province of Gelderland and a construction permit from the Municipality of Apeldoorn. According to Wilbert Hermans, the Director of Fibroned, the company invested € 7 million in this project. In the meantime, due to the delay, the Municipality of Apeldoorn put aside Fibroned's idea of residual heat, in which houses in the Zuidbroek neighbourhood would be provided with heat via a pipeline network (meanwhile, other solutions were partially found). By the time, Zuidbroek utilised to some extent the residual heat from the water purification process, and Zonnehoeve made use of heat pumps. The spokesman for the Municipality of Apeldoorn emphasised how much of the sustainable energy opportunity was being missed for Apeldoorn's energy-neutral 2020 ambition (Leeflang, 2007¹⁴²). Even so, Fibroned's shareholders were still interested in this investment; therefore, they intend to continue with this effort. They expected that the environmental permit would be granted within seven months and a year (seven months, referring to the environmental permit process taking a maximum of 6 months and an additional 4 weeks; and a year, referring to the reserved time for possible delays due to the objections¹⁴³). As of January 2011, Fibroned was confident that the need for renewable energy in the City of Apeldoorn was still valid, since only 15 per cent of Zuidbroek's energy need was provided by the sewage sludge of the Water Board; and the rest was provided by natural gas; which justified the validity of the need for renewable energy (Correspondence with Pol Knops, January 2011).

When submitting the request for an environmental permit, a year's delay was mentioned owing to a mistake in the Noise Memorandum of the Municipality and related adjustments in the legal texts. It was then expected that by mid-2013, energy would be produced from bio-fuels. For the Municipality of Apeldoorn,

¹⁴¹ In Dutch: *heel mooi helder groen*.

¹⁴² Retrieved from Zuidbroeknews at <http://www.zuidbroek.nu> on 5 July 2010. This website no longer exists.

¹⁴³ In Dutch: *bezwaar- and beroepsprocedures*.

Fibroned was still welcome, according to the spokesman Toon Schuiling (Stentor, 12/01/2010).

Meanwhile, some other changes related to legislation occurred in the broader context. As such, the change in the General Provisions Act for the Environmental permit (*WABO*), enforced on 1 October 2010, gives the responsibility to the provincial government and an advisory role to the municipalities. Earlier, the municipality used to give the construction permit, as well as four other permits, while the environmental permit was given by the province. In addition to *WABO*, the Law of Nature Protection, enforced in 2004, has been a hot item since 2008 when it became effective, and is also applicable in the context of Fibroned activities. There are some protected nature areas around the Ecofactorij Business Park, which fall under the Natura 2000 network. The activity of Fibroned is expected to produce NH_3 (ammonia) which could have a negative effect on these protected areas. The Province has been busy with diffusion calculation models in order to determine the extent of the risk on these areas. In any case, a separate permit based on this law will be needed by the companies. The permit related to the nature protection law is decisive for the other permit (Interview with Teun Achterkamp, October 2010). In addition to that, the Law of Crisis and Recovery could also be relevant for speeding up the process of getting an environmental permit (Correspondence with Pol Knops, January 2011).

In 2010, the Municipality of Apeldoorn considered working on a 3rd revision of the Ecofactorij Zoning Plan, which suggested changing the stack height from 45 m to 90 m. In addition, they wanted to add bio-energy companies to the list of company types of the Ecofactorij. These changes were not only meant to accommodate Fibroned but also to keep the options flexible for other bio-energy companies (Interview with Peter Scherders, October 2010). Until recently, the 3rd revision of the Ecofactorij Zoning Plan was a possibility. As a matter of fact, it was already known in Fibroned's EIA report in 2001 that the stack height would be 90 m. Actually, the Municipality of Apeldoorn did not want to change the stack height during the 2nd revision in order to avoid public resistance because that revision involved other issues. Since a revision is approved or rejected as a whole rather than per item, it was a strategic decision of the Municipality to reserve the Fibroned- and bio-energy companies-related changes in the Zoning Plan for a separate phase (Interview with Pol Knops, October 2010). However, due to the new General provisions Act of for the Environmental Permit, and the current work on the new zoning plan, the 3rd revision idea has been abandoned (Correspondence with Peter Scherders, February 2011).

7.1.2 Network shape over the course of the stages of networking

By March 2011, the life span of the Fibroned case, from the formation of the network until current stage of network stagnation entailed to about 12 years. This period is examined in six stages: (i) network formation; (ii) network expansion; (iii)

network reconstitution I; (iv) network reconstitution II; (v) network reconstitution III; and (vi) network stagnation.

The policy network started as a policy community in the network formation stage. An issue network co-existed with the policy community from the network expansion stage and further. In addition to that, depending on the legal procedures, there were some neutral actors involved.

7.1.2.1 Network shape during the network formation stage

The network formation stage encompassed the period from 1999 until December 2000. The network then involved four actors: Fibroned, the Municipality of Apeldoorn, the Department of the Environment and Water of the Province of Gelderland; and Consultancy Company A, who made the calculations for the EIA report on the instructions of Fibroned. The shape of the network at the formation stage resembled that of a policy community owing to the close and harmonious relationship between the actors. Although a few critical voices were heard during the SoPaG Conference in 2000 (see Chapter 6) regarding the idea of poultry manure incineration in the Ecofactorij Business Park, they were not yet organised voices, and thus, far from constituting an issue network.

Looking back over, the formation stage of the policy community around the Fibroned case was identified with the recognition of two factors, which had a potential: The Municipality of Apeldoorn, Fibroned and the Province of Gelderland recognised the potential for mutual advantage through common action. These actors also recognised the potential for enhancing strategic capacities of each other. By this means, the links between the network members were established and, soon after, strengthened with a collective technical visit to a similar power plant in the UK.

Fibroned, willing to invest in a bio-energy plant in the Ecofactorij Business Park, was the core private actor in the policy community. The Municipality of Apeldoorn who agreed with the investment proposal of Fibroned was the core governmental actor. The Province of Gelderland, with positive impressions of the Thetford plant in the UK, was also a part of the policy community in the network formation stage. It was the Province's Department of the Environment and Water; and the Provincial Executive Member, responsible for Economy and Environment, who were in the policy community.

The policy network was as follows in the network formation stage (see Figure 7.1.).

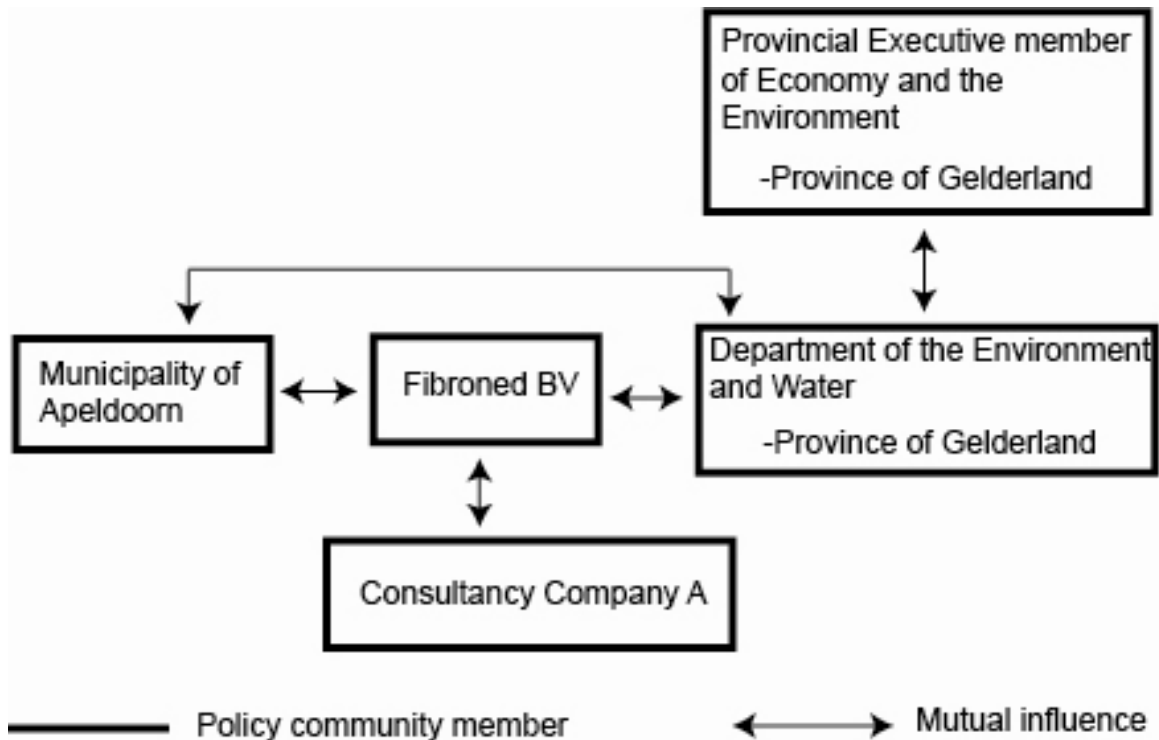


Figure 7.1: Network formation stage

The network in the formation stage was in the form of a policy community and had the following characteristics (see Table 7.1. for a complete overview):

- **Membership:** There were a limited number of members, who dominantly had economic and professional interests.
- **Integration:** Integration in the policy network was based on frequent interaction. Continuity in the membership and consensus in the values was evident.
- **Resources:** The actors had resources; and the relationship between the actors was an exchange relationship.
- **Power:** There was balance of power among the members of the network. It was a positive-sum game between Fibroned and the Municipality of Apeldoorn and between Fibroned and the Province of Gelderland.

The policy outcomes were only just taking root during the network formation stage. Therefore, it was too early to talk about policy change or policy stability at this stage. The linkages between Fibroned and the Municipality of Apeldoorn, on the one hand, and between Fibroned and the Province of Gelderland, on the other, were being established. In this connection, the prior technical visit to the Thetford plant in the UK, which involved municipal and provincial executives and experts, facilitated an open-minded start-up.

The official procedures started only towards the end of the network formation stage; then, the technical team of the Province of Gelderland, which was responsible for granting the environmental permit, first entered in the policy arena as a neutral party.

7.1.2.2 Network shape during the network expansion stage

The network expansion stage referred to the period December 2000 – October 2001. It was identified with a number of characterising events: *First*, the official procedures around the environmental permit granting process led to the expansion of the network as there were some environmental and societal actors, who had a say during the public review process of the EIA report of Fibroned and the environmental permit process. *Second*, due to the legal procedures, the Province of Gelderland, as the competent authority, shifted to the neutral arena. It involved multiple actors dealing with the Fibroned case: the Provincial Executive Member, who is politically responsible (as of November 2001); the executive management team of the Department of the Environment and Water, which is administratively responsible; and the technical team, responsible for the technical evaluation of the request for an environmental permit. This was the stage, positions of the actors, in each sub-network, i.e. policy community, issue network as well as the actors in the neutral arena were established.

In this period, Fibroned's request for an environmental permit was made available for public review. In addition, the three consecutive draft versions of the environmental permit, prepared by the Province of Gelderland, were made available for public review.

During this process, the policy network was divided into two sub-networks: a policy community, and an issue network. The policy community, which was already founded at the network formation stage, remained with the same members, except the Province of Gelderland. This was because the Province of Gelderland gained a neutral status due to its position as the competent authority regarding the environmental permit procedures. In addition, the Council of State joined the neutral arena due to its legal functions as the appeal authority.

At the same time, the roots of an issue network alongside this policy community were being established. As such, a few environmental organisations, i.e. *Vereniging Milieu-Offensief* (also representing the Foundation for animals' well-being, and the Dutch Association of Veganism), and the Environmental Federation of Gelderland (also representing the Netherlands Society for Nature and the Environment and the Environmental Care Working Group Foundation of Apeldoorn), which started openly expressing their viewpoints, formed the basis of this issue network. And they existed as opposed to, but, at the same time, in interaction with the policy community.

The shape of the policy network was as follows in the network expansion stage (see Figure 7.2):

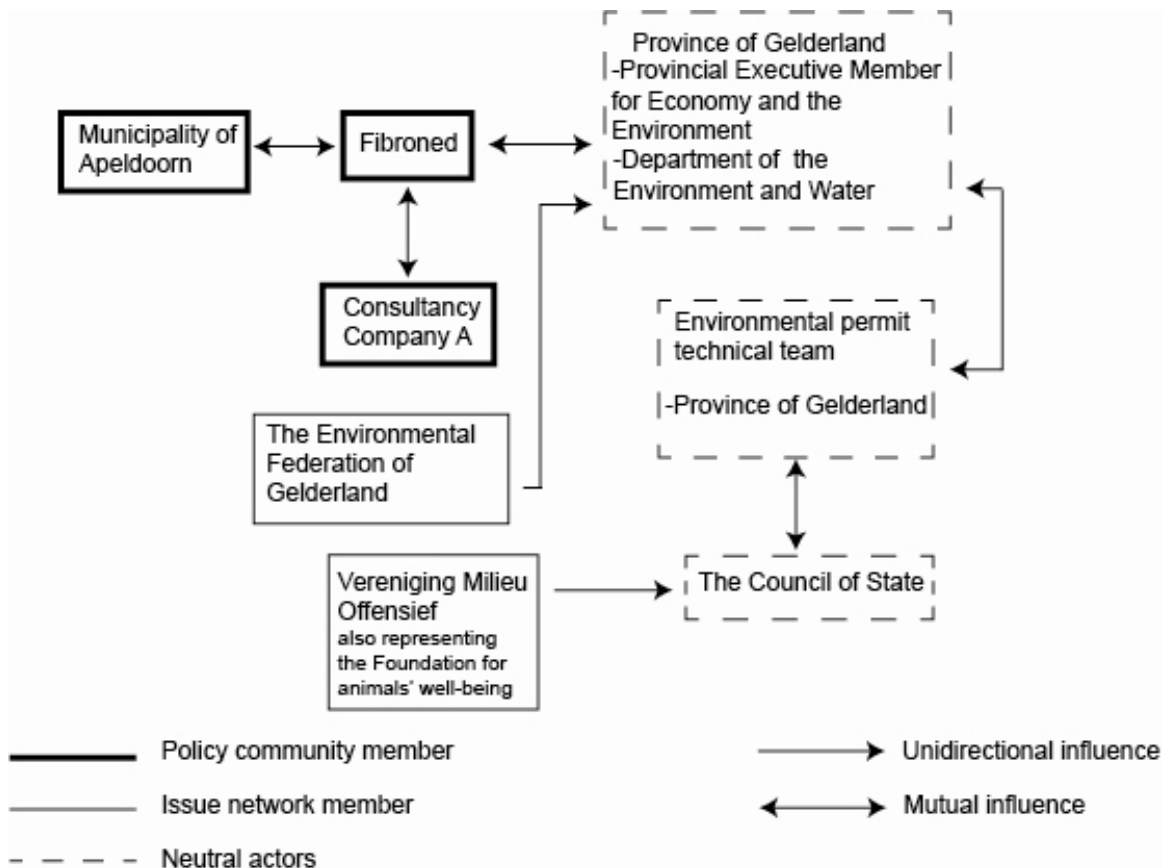


Figure 7.2: Network expansion phase

The network in the expansion stage had the following characteristics (see Table 7.2 for a complete overview):

- Membership: The policy community downsized to a limited number of members, who dominantly had economic and professional interests. One member of the policy community at the network formation stage, i.e. the Province of Gelderland, gained a neutral status. In addition, an issue network emerged, whose members were against the Fibroned proposal. Within the issue network, there were sub-networks. Besides that, the Council of State, with legal responsibilities, joined the neutral arena.
- Integration: Integration within the policy community was based on frequent interaction. Within the issue network, there were different ideas and diverging levels of interaction. Membership was based on interaction of varying frequency; and it was not continuous. Issue network members had some contact with the policy community members but they were mainly in touch with the Council of State, the appeal body.
- The relationship between the participants was an exchange relationship.
- There was a balance of power among the members of the policy community, as well as among the members of the issue network.

However, there was no balance of power between the two sub-networks. Neutral actors had legal power.

The most remarkable outcome of the network expansion stage was that Fibroned was granted an environmental permit by the Province of Gelderland despite the rising, yet not particularly controversial, oppositional reactions of the issue network. The granting of the permit was a step forward towards the green energy goal of the Municipality of Apeldoorn.

7.1.2.3 Network shape during the network reconstitution stages

Overall, the network reconstitution period extended over a period of about 4.5 years: namely, between October 2001 until March 2005. This period is characterised by a relatively well-established policy community, on the one hand, and a relatively less established issue network, on the other.

The policy community at the core remained more or less stable. However, the issue network, which was founded in the previous network expansion phase, evolved more vigorously. That is to say, the members of each of the networks were known and remained nearly the same; but, particularly in the issue network, the roles and positions of the actors frequently reshuffled. Some actors were more active during the process leading to the revocation of the environmental permit.

This prolonged phase of network reconstitution could also be seen as a single period of intensive controversial debates. In other words, it was a playing field for the issue network, composed of the non-governmental organisations and citizen initiatives, and in interaction with the Council of State. However, there were some breaking points throughout the time, connected with the granting or revocation of the environmental permit.

In this respect, the period of network reconstitution could alternatively be viewed as consisting of three sub-stages:

- i) the network reconstitution stage I, which began with the granting of the first environmental permit and ended with its eventual revocation;
- ii) the network reconstitution stage II, delineated by the revocation of the first environmental permit and the granting of the second environmental permit; and finally,
- iii) the network reconstitution stage III, marked by the granting of the second environmental permit and its eventual revocation.

In the light of this, the sub-stages of the network reconstitution displayed a number of characteristics:

Network shape during the first reconstitution stage of the network

The first reconstitution stage of the network extended from October 2001 until March 2003. This period, ranging from the granting of the first environmental permit to its eventual revocation, indicated a flourishing stage of the issue network, whose predecessor lay in the network expansion stage. However, especially in the earlier phases of this stage, the issue network was characterised more by the radical environmental groups than the citizens. As also emphasised by Sargant (2004:42), citizens did not lodge an appeal in a formal procedure at this stage.

The shape of the policy network in the first stage of the network reconstitution is identified with a fairly stable policy community and a dynamic issue network:

The policy community, as such, was composed of Fibroned and Consultancy Company A, and the Municipality of Apeldoorn.

Consultancy Company B was hired by the Municipality of Apeldoorn in order to independently re-measure the emission levels indicated by Consultancy Company A, which was hired by Fibroned. However, Consultancy Company B had a neutral position. Because of the ongoing appeal procedure, other neutral actors joined: i.e. the Council of State and the StAB, its technical advisory organ.

The issue network, on the other hand, involved a number of NGOs and the citizen initiatives; and they had interwoven interaction within themselves and with the policy community along two lines:

The *first* line of interaction took place according to the formal procedures. The appeal process was initiated officially by the Environmental Federation of Gelderland (also representing the Environmental Care Workgroup Foundation of Apeldoorn); and by the *Vereniging Milieu Offensief* (also representing the Dutch Association of Veganism).

The *second* line of interaction was in terms of expressing opinions. Johan Vollenbroek conducted a technical discussion with the Municipality and the Province, especially regarding the emission levels; and, at the same time, he advised the Concerned Citizens initiative. As such, the Concerned Citizens of Apeldoorn expressed their reactions to the Municipality and the Province while in the background they kept in contact with Johan Vollenbroek and Environmental Federation of Gelderland.

The policy network was as follows in the stage of network reconstitution I:

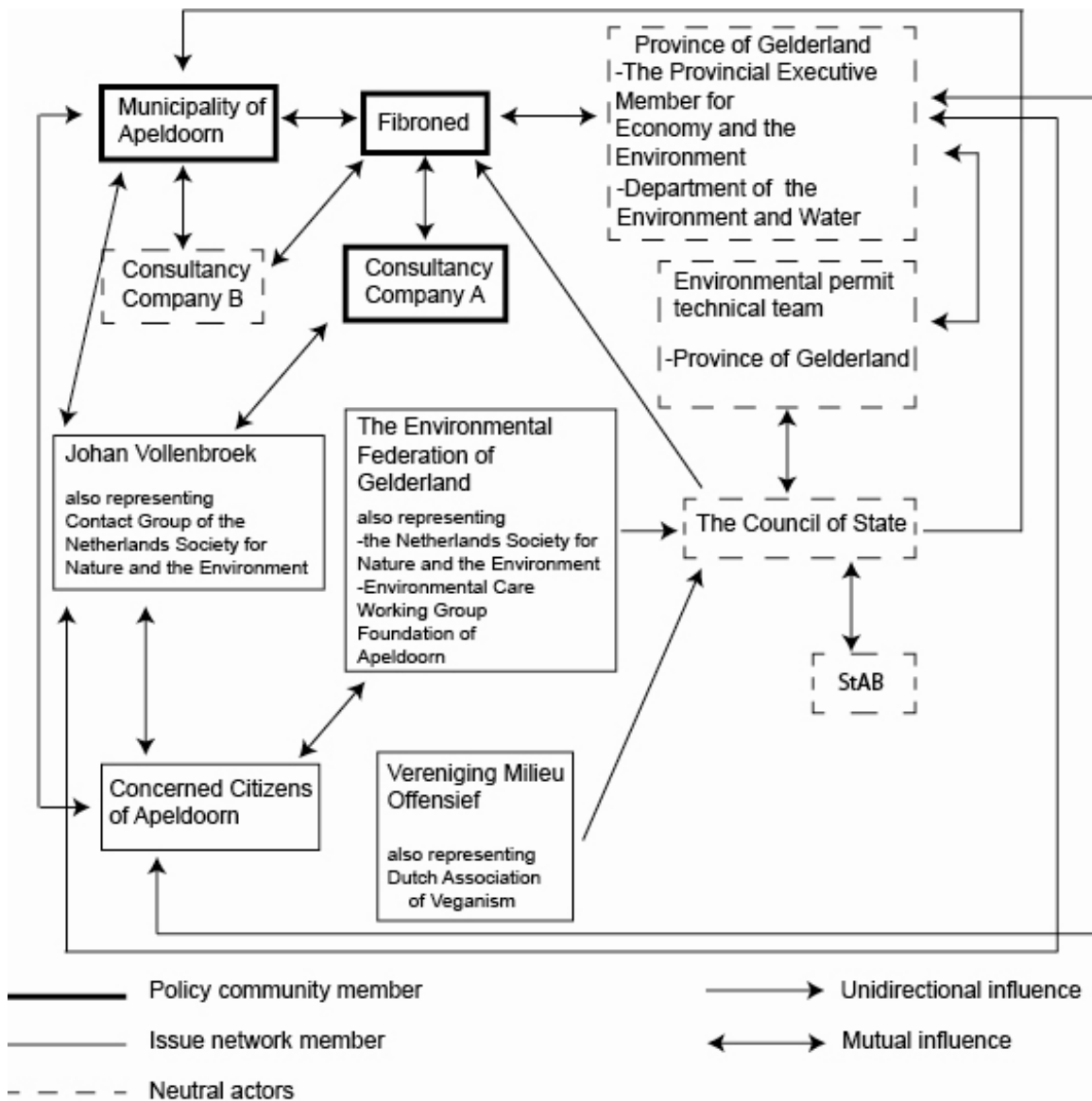


Figure 7.3: The stage of network reconstitution I

The network in the first reconstitution stage had the following characteristics (see Table 7.2. for a complete overview):

- Membership: The policy community remained: there were a limited number of members, who dominantly had economic and professional interests. The issue network enlarged. Besides that, the neutral arena was enlarged with two types of actors: (i) StAB, the technical advisory council for the Council of State joined; and (ii) an engineering company (Consultancy Company B) was hired by the Municipality of Apeldoorn to check the proposed emission levels of Fibroned independently.

- Integration: Integration within the policy network was stable. Within the issue network, integration was based on varying frequency. Continuity in the membership and consensus in the values was evident in the policy community while in the issue network, there were varying ideas.
- Resources: The relationship between the participants was an exchange relationship.
- Power: There was balance of power among the members of the policy community, where economic and professional interests dominated. Within the issue network, Johan Vollenbroek had a prominent role, guiding and supporting the Concerned Citizens of Apeldoorn. There was no balance of power between the two networks. Neutral actors held legal power.

The major policy change achieved in this stage was the revocation of the first environmental permit by the Council of State.

Looking back over, the first reconstitution stage can be identified, primarily, as the stage in which network expansion started paying off for the policy community with the production of the first policy outcome: granting of the environmental permit to Fibroned. This triggered a high level of activity within the issue network. As such, the various voices raised by the environmental and societal organisations, backed up by their ideas regarding poultry farming and poultry manure incineration as a way of energy production, took legal action, as defined by the law. The first reconstitution was the stage in which the issue network got into its peak level of involvement and strategic interaction.

Network shape during the second reconstitution stage of the network

The second reconstitution stage of the network took place during the period March 2003 - February 2004 period, delineated by the revocation of the first environmental permit and the granting of the second environmental permit. The dynamism of the first reconstitution stage slowed down relatively in the second reconstitution stage.

In this stage, characterised by the preparation of a new EIA by Fibroned, which eventually submitted a new request for an environmental permit, both the policy community and the issue network were reduced in size, but maintained the same level of intensity.

In the arena of neutral actors, there were a few changes: Consultancy Company B, hired by the Municipality of Apeldoorn, who had completed the assignment of re-measuring the emission levels, left the neutral arena. The Province of Gelderland, hired an external consultancy company, i.e. Consultancy Company C, to support its technical team in the process of assessing the second environmental permit. In addition, the Council of State was out of the scene because the appeal process was finalised with the revocation of the first environmental permit.

Regarding the issue network, the dynamism of the previous stage was replaced with a 'back to the core' approach. The issue network downsized to the Environmental Federation of Gelderland, Johan Vollenbroek and the Concerned Citizens of Apeldoorn.

The policy network looked as follows in the second stage of the network reconstitution (see Figure 7.4):

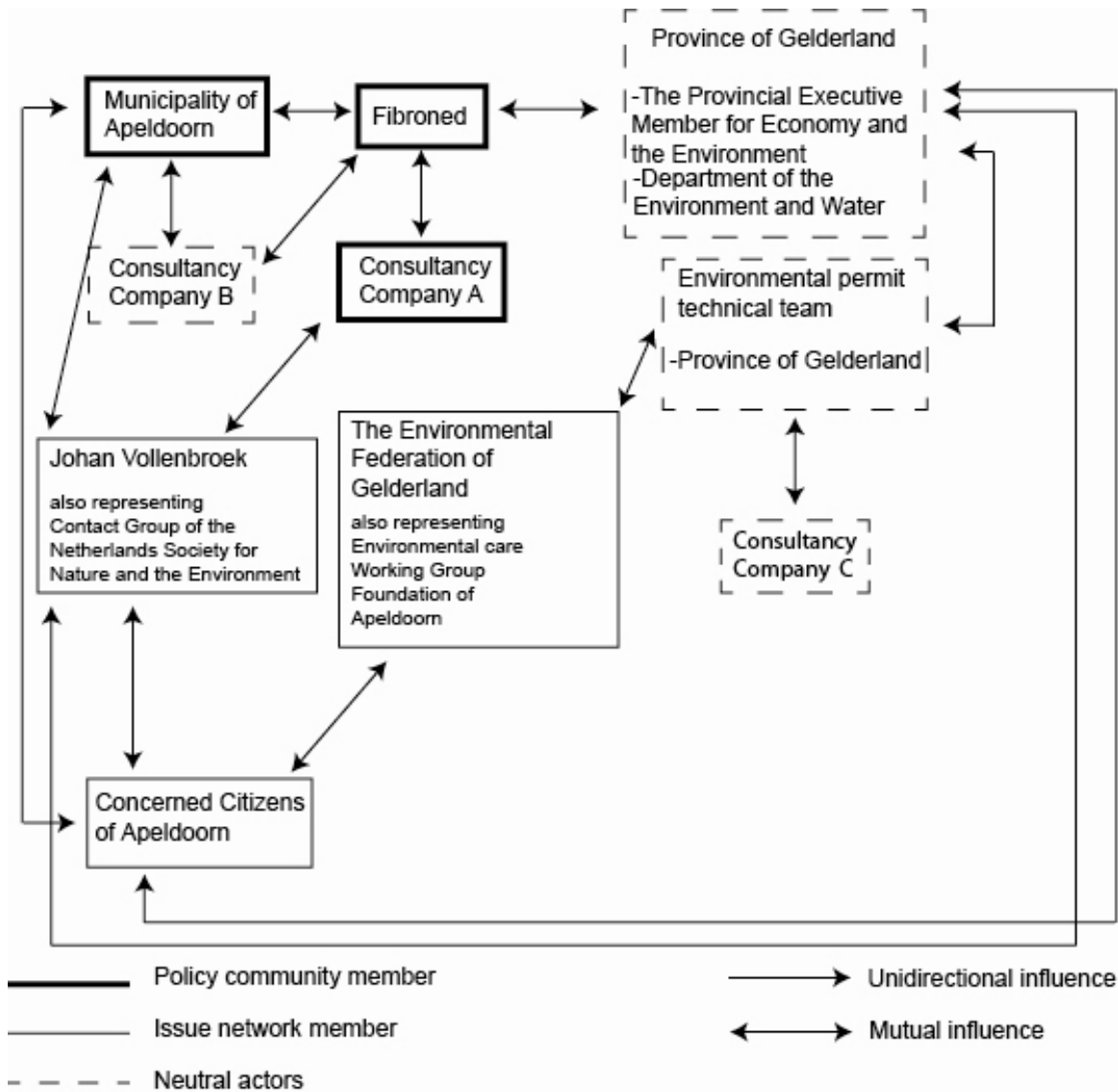


Figure 7.4: The stage of network reconstitution II

The network in the second reconstitution stage had the following characteristics (see Table 7.2 for a complete overview):

- Membership: the policy community remained; there was a limited number of members, who dominantly had economic and professional interests. The neutral arena downsized with the leaving of Consultancy Company B and the Council of State; but the Consultancy Company C joined in order to support the environmental permit technical team of the Province of Gelderland. The issue network remained with the Concerned Citizens of Apeldoorn, Johan Vollenbroek and the Environmental Federation of Gelderland.
- Integration: integration within the policy community was based on constant interaction. Within the issue network, integration was based on interaction of varying frequency. Continuity in the membership and consensus in the values was evident.
- Resources: the relationship between the participants was an exchange relationship.
- Power: there was balance of power among the members of the policy community, as well as among the members of the issue network. However, there was no balance of power between the two networks. Neutral actors held legal power.

The policy change of this stage was two-fold. First, there was the remarkable attempt of the Province of Gelderland to strengthen its environmental permit process by hiring an external consultant. Second, there was the granting of the environmental permit by the Province of Gelderland.

Looking back, the second reconstitution stage of the network involved further enhancement and institutionalisation of the changes, which were actively enforced in the first reconstitution stage. The first reconstitution stage was finalised with the revocation of the first environmental permit granted to Fibroned. In the second reconstitution stage, while Fibroned was busy with the preparations for the second EIA, the issue network relatively cooled down. However, the revocation of the permit, while it was within acceptable technical standards, attracted the attention of political parties and media. The hot debates about emission levels and the concerns of societal organisations and citizens, varying from local environmental quality to animals' welfare underpinned the ongoing interest in the matter.

Network shape during the third reconstitution stage of the network

The third reconstitution stage of the network extended over the period of February 2004 until March 2005, in which the second environmental permit was granted by the Province of Gelderland, but eventually revoked by the Council of State.

The issue network mainly remained the same, but with slightly changed positions of the actors in the environmental movement such as the Environmental Federation of Gelderland being out of the official appeal procedure, and Johan Vollenbroek taking part in the appeal procedure.

In this stage, the neutral arena of the policy network regained its position as the Council of State and its advisory organ, i.e. StAB, were back. The Province of Gelderland also hired a private mediator to reconcile the discussions between various parties; but it did not help (Interview with Henk Aalderink, October 2010).

The major policy outcomes at this stage were that: (i) a private mediator for communication was hired; and (ii) the second environmental permit was revoked.

The policy network looked as follows in the third stage of network reconstitution (see Figure 7.5):

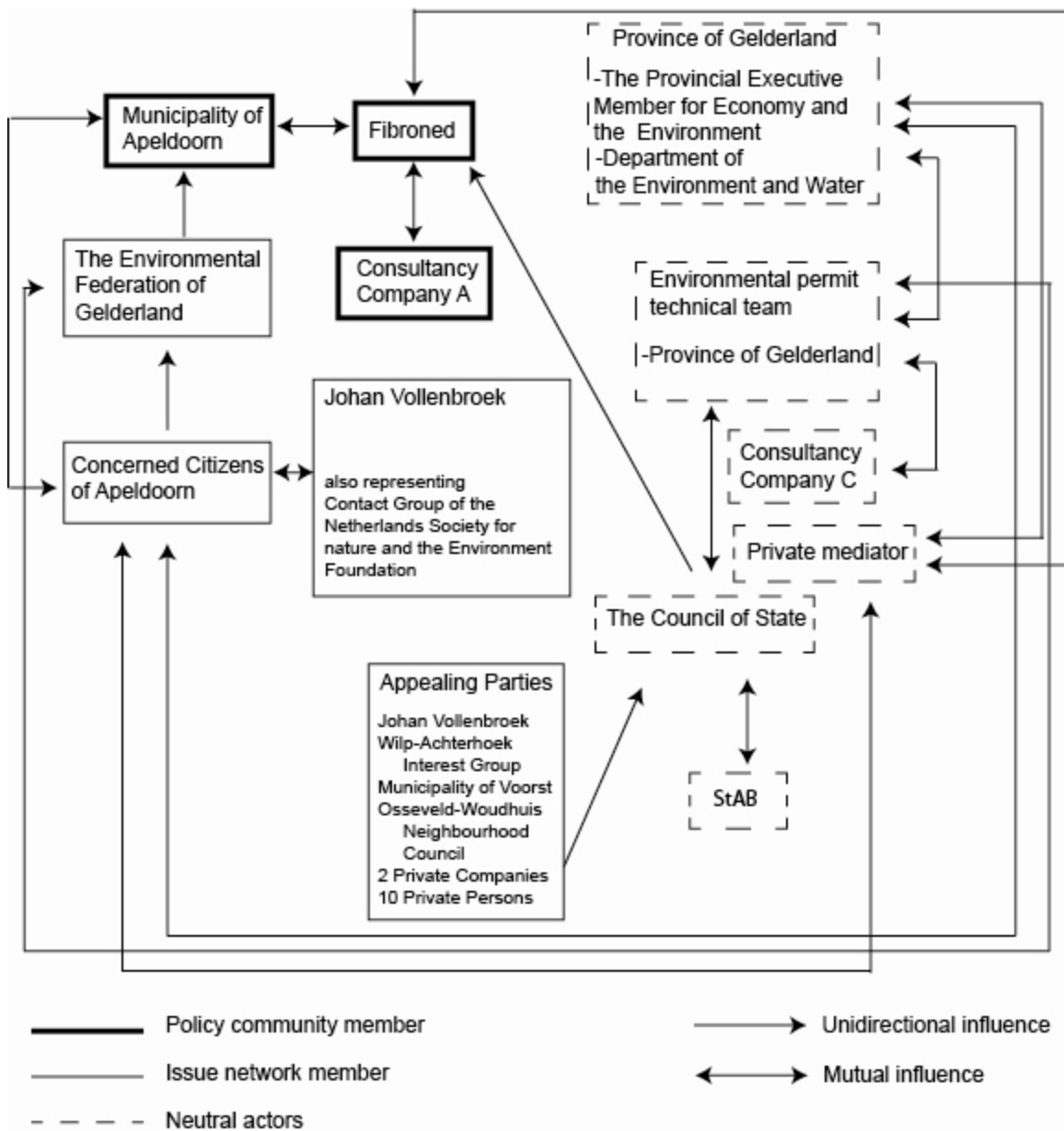


Figure 7.5: The stage of network reconstitution III

The network in the third reconstitution stage indicated the following characteristics (see Table 7.2 for a complete overview):

- Membership: the policy community remained; there were a limited number of members, who dominantly had economic and professional interests. In addition, the issue network enlarged due to the appealing parties including 10 private persons. Besides that, StAB, the technical advisory council for the Council of State re-joined the neutral arena.
- Integration: integration within the policy network and within the issue network was based on interaction of varying frequency; continuity in the membership and consensus in the values was evident.
- The relationship between the participants was an exchange relationship.
- There was a balance of power among the members of the policy community, as well as among the members of the issue network. However, there was no balance of power between the two networks. Neutral actors had legal power or expertise.

In retrospect, the third reconstitution stage of networking revolved around the fierce debates and appeal procedures to the environmental permit, which was granted for the second time. Just like the first reconstitution stage, this stage involved a high level of involvement by the issue network members. In all the reconstitution stages, Province of Gelderland hired external experts to support the legal and technical aspect of the environmental permit granting process. In the three reconstitution stages, the actors made best use of their resources, within a context drawn by legal-constitutional and ideational boundaries.

7.1.2.4 Network shape during the network stagnation stage

The stage of network stagnation began after 22 March 2005, straight after the revocation of the second environmental permit.

In December 2005, the Province continued to solidify its position as the competent authority by hiring another consultancy company, i.e. Consultancy Company D, instead of Consultancy Company C. By this means, the neutral arena was tightened and strengthened by external expertise. Eventually, a draft EIA was proposed by Fibroned but the process slowed down.

However, policy developments and the policy network kept a low profile; and the environmental movement and citizens were not that closely and actively connected to the matter at that time. In this period both policy community and the issue network slowed down, however at different paces. The 'network stagnation' stage could also be seen as the process of 'calm-before-the-storm'.

The policy network looked as follows in the network stagnation stage (see Figure 7.6):

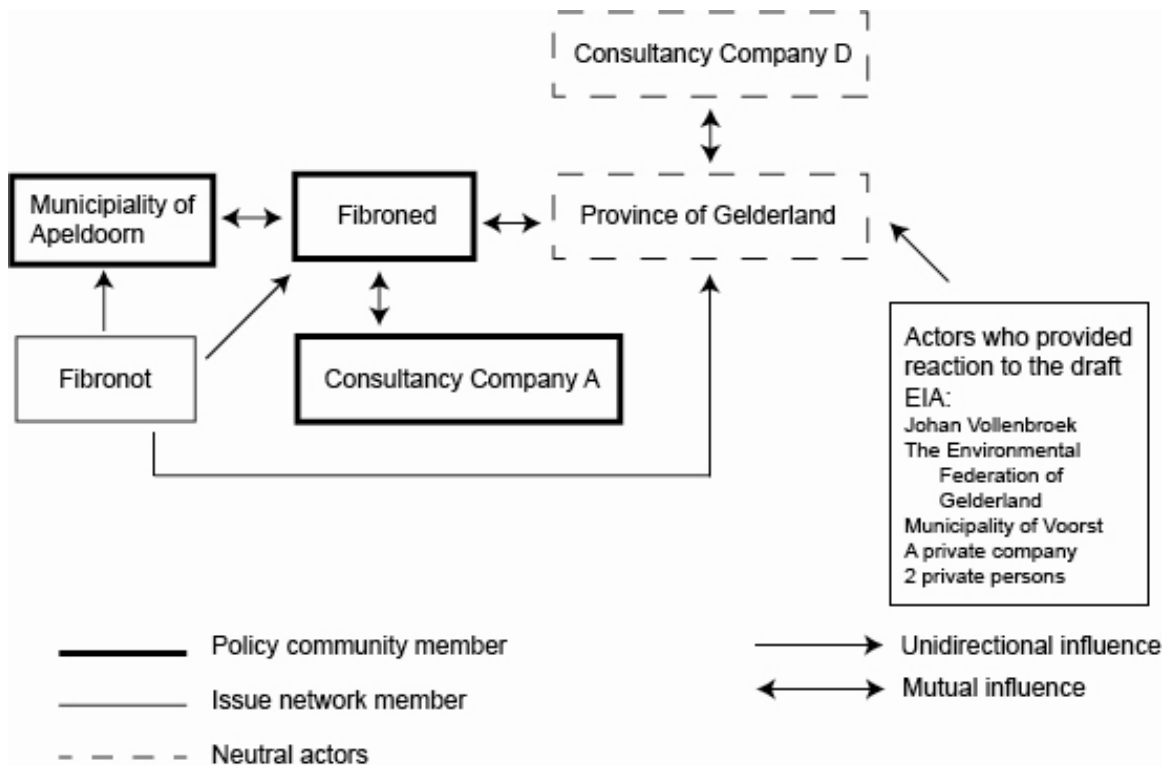


Figure 7.6: Network stagnation stage

The network in the stagnation stage had the following characteristics (see Table 7.2 for a complete overview):

- Membership: the policy community remained: there was limited number of members; who dominantly had economic and professional interests. In addition, some of the regular members of the issue network joined. In the neutral arena, Consultancy Company D was hired by the Province of Gelderland in order to support the process.
- Integration: integration within the policy network was stable. Within the issue network, it was of varying frequency. In the policy community, continuity in the membership and consensus in the values was evident whereas the issue network involved a few small sub-groups of actors.
- The relationship between the participants was exchange relationship.
- There was a balance of power among the members of the policy community as well as among the members of the issue network.

The policy outcomes which came about during the network stagnation stage are two-fold: *First* change took place in the broader context. The national Noise Nuisance Law was changed following the revocation of the second environmental permit. The attempt to change the law was triggered by the fact that the Fibroned plant did not conform to the noise regulation, which was the reason for the second revocation. *Second*, the Municipality of Apeldoorn considered initiating

the 3rd revision of the Zoning Plan of the Ecofactorij Business Park concerning the establishment of bio-energy plants so that Fibroned and other (potential) bio-energy companies could be accommodated. However, the idea of the 3rd revision was abandoned since a new Zoning Plan needed to be made in 2010, which was obviously delayed.

7.1.3 Linking the network shape and the networking stages

As already mentioned, there were six stages of networking around Fibroned's proposal to invest in a bio-energy plant in the Ecofactorij Business Park. The shape of the policy network evolved throughout these stages of networking.

The network was formed in the shape of a policy community because there were coherent economic and professional interests shared by Fibroned, the Municipality of Apeldoorn and the Province of Gelderland. The municipal policy context, which involved producing sustainable energy, and developing the Ecofactorij as a sustainable business park, provided a background, in which the interests of the actors in the policy community around Fibroned's investment proposal were matched. However, from network expansion stage onwards, Province of Gelderland left the policy community and joined the neutral arena because it was the competent authority responsible for granting the environmental permit.

As the environmental impact assessment report of Fibroned and the draft environmental permit by the Province of Gelderland were made available for the public review, there appeared an issue network, besides the policy community, throughout the expansion and the three stages of reconstitution of the network. The issue network was characterised by the issue network's disagreement with the poultry manure incineration proposal in the Ecofactorij Business Park. This opposition was based on the ideational position of the actors of the issue network. As such, some of these actors were in favour of sustainable poultry farming as an alternative to the industrial poultry farming, while some others were sceptical about the likely impacts of this investment on the quality of the local environment.

In addition, some other actors did not belong to any of these networks because of the special position they had. They were the neutral actors: the Province of Gelderland, the competent authority to assess whether the environmental permit could be granted, the Council of State, as the authority of the appeal procedure, and its Technical Advisory Unit (StAB). In addition, some external experts were hired to measure the proposed emission levels and check the correctness of the emission levels, which were contested. Other experts were hired to support the environmental permit team of the Province of Gelderland.

The stages of networking were delineated by the legal procedures related to the environmental impact assessment and environmental permit. These procedures

involved public review and a public hearing, including (i) the right to express opinions regarding the environmental permit; and (ii) the right to appeal. Accordingly, the four networking stages (i.e. network expansion, network reconstitution I, II and III) were demarcated with the granting of the environmental permit or its revocation.

There were two sub-networks, i.e. a policy community and an issue network, which co-existed, and there was a continuous change in the network shape. This change was parallel to the policy change, earmarked by the granting and revoking of environmental permits to Fibroned. At the time of the public review of Fibroned's EIA report; the public review of the draft environmental permit of the Province of Gelderland, and appeal against the granted environmental permit, the issue network was dynamic but with varying frequency of interaction. These times encompass the stages of network expansion, reconstitution I, II and III. While environmental NGOs were prominent in the network expansion stage, the citizens' initiative flourished in the three reconstitution stages.

During the last phase, i.e. since March 2005, in which preparations for the third request for an environmental permit were made, the network has gone into a period of stagnation. Namely, the issue network at the periphery kept a low profile, while the policy community was still active, but less intensively.

Table 7.1: Change in the network shape according to the networking stages – part 1 / 1

Stage #	Networking stages	Types of policy networks and actors		
		Policy community	Issue network	Neutral actors
1	Network formation	<ul style="list-style-type: none"> - Fibroned - Consultancy Company A - Municipality of Apeldoorn - Provincial Executive Member Gelderland - Executive Management team Gelderland 	none	none
2	Network expansion	<ul style="list-style-type: none"> - Fibroned - Consultancy Company A - Municipality of Apeldoorn 	<ul style="list-style-type: none"> - The Environmental Federation of Gelderland - <i>Vereniging Milieu Offensief</i> (also representing the Foundation for animals' well-being) 	<ul style="list-style-type: none"> - Province of Gelderland - Council of State
3	Network reconstitution I		<ul style="list-style-type: none"> - The Environmental Federation of Gelderland (also representing the Netherlands Society for Nature and the Environment and the Environmental Care Working Group Foundation of Apeldoorn) - <i>Vereniging Milieu Offensief</i> (also representing the Dutch Association of Veganism) - Johan Vollenbroek (also representing the Contact Group of the Netherlands Society for Nature and the Environment) - Concerned Citizens of Apeldoorn 	<ul style="list-style-type: none"> - Province of Gelderland - Council of State - StAB – Technical advisory council - Consultancy Company B
4	Network reconstitution II		<ul style="list-style-type: none"> - The Environmental Federation of Gelderland (also representing the Environmental Care Working Group Foundation of Apeldoorn) - Johan Vollenbroek (also representing the Contact Group of the Netherlands Society for Nature and the Environment) - Concerned Citizens of Apeldoorn 	<ul style="list-style-type: none"> - Province of Gelderland - Council of State - Consultancy Company C
5	Network reconstitution III		<ul style="list-style-type: none"> - The Environmental Federation of Gelderland - Various appealing parties 	<ul style="list-style-type: none"> - Province of Gelderland - Council of State - StAB - Technical advisory council - Consultancy Company C - Private mediator
6	Network stagnation	<ul style="list-style-type: none"> - Various parties reacting to the draft EIA - Fibronot 	<ul style="list-style-type: none"> - Province of Gelderland - Consultancy Company D 	

Table 7.2: Characteristics of the network shape per networking stage, according to the Marsh-Rhodes continuum – part 1 / 2

		Networking stages						
		Network formation	Network expansion	Network reconstitution I	Network reconstitution II	Network reconstitution III	Network stagnation	
Network shape characteristics	Membership							
	<i>Number of participants</i>	Policy community	Policy community downsized Issue network with environmental organisations 2 neutral actors	Stable policy community Issue network: larger with environmental organisations and other members 4 neutral actors	Stable policy community Issue network: relatively downsized 2 neutral actors	Stable policy community Issue network: larger with environmental organisations and other members 5 neutral actors	Policy community: downsized Issue network: relatively downsized 2 neutral actors	
	<i>Types of interest</i>	Policy community: economic and professional interests dominate	Policy community: economic and professional interests Issue network: environmental and public-health related interests					
	Integration							
	<i>Frequency of interaction</i>	Frequent interaction at the policy community	Frequent interaction within the policy community Varying frequency of interaction within the issue network Varying frequency of interaction between the policy community and the issue network					All actors at a low profile
	<i>Continuity</i>	Membership, values and outcome: persistent in the policy community	Membership, values and outcome persist in the policy community Membership, values and outcome vary in the issue network					
<i>Consensus</i>	Basic values shared and legitimacy of the outcome accepted within the policy community	Within the policy community: basic values shared and legitimacy of the outcome accepted within the policy community Within the issue network: opposition to the investment idea; however with varying rationale						

Table 7.2: Characteristics of the network shape per networking stage, according to Marsh-Rhodes continuum – part 2 /2

		Networking stages					
		Network formation	Network expansion	Network reconstitution I	Network reconstitution II	Network reconstitution III	Network stagnation
Network shape characteristics	Resources	<u>Policy community</u> Financial, political, legal and informational resources	<u>Policy community</u> Financial, political and informational resources <u>Issue network</u> Organisational, legal and informational resources <u>Neutral actors</u> Legal resources	<u>Policy community</u> Financial, political and informational resources <u>Issue network</u> Organisational, legal and informational resources <u>Neutral actors</u> Legal and informational resources	<u>Policy community</u> Financial, political and informational resources <u>Issue network</u> Organisational, legal and informational resources <u>Neutral actors</u> Legal and informational resources	<u>Policy community</u> Financial, political and informational resources <u>Issue network</u> Legal, organisational and informational resources Various resources (by appealing parties) <u>Neutral actors</u> Legal, informational and organisational resources	<u>Policy community</u> Financial, political and informational resources <u>Issue network</u> Various resources (by parties reacting to the draft EIA) <u>Neutral actors</u> Legal and informational resources
	Power	Balance of power within policy community Positive-sum game among members	Balance of power within policy community Positive-sum game among members Balance of power within issue network Positive-sum game among members Zero-sum game between policy community and issue network Neutral actors: hierarchical relationship with the policy community and issue network members	Balance of power within policy community Positive-sum game among members Balance of power within issue network Positive-sum game among members Zero-sum game between policy community and issue network Neutral actors: hierarchical relationship with the policy community and issue network members	Balance of power within policy community Positive-sum game among members Balance of power within issue network Positive-sum game among members Neutral actors: hierarchical relationship with the policy community and issue network members		

The Fibroned case

Operationalisation Step 2

**Linking the policy outcomes and the policy
networks**

7.2 Linking the policy outcomes and the policy networks

7.2.1 Defining the policy scope: the role of ideas

7.2.1.1 Introduction

The policy scope of the poultry manure incineration policy network, in the first instance, is obviously centred on the environmental permit that Fibroned requested in order to build a bio-energy plant in the Ecofactorij Business Park. Although not openly expressed, this policy scope is shaped and steered by an ideational dichotomy between the network actors. As such, actors are polarised with respect to their ideas about the conventional poultry farming industry and sustainable poultry farming. Science also plays a role in this polarisation; in this respect, different actors with different ideas make use of various interpretations of (scientific) facts and figures. On the basis of this division, which is mainly in ethical terms, actors take their positions in the policy discussions on various themes.

The controversies regarding Fibroned's energy production proposal by poultry manure incineration involved discussions which followed two lines:

- Ethical discussion: sustainable poultry farming versus industrial poultry farming
- Policy discussions on:
 - the level of emissions from the stacks;
 - the technical nature of the proposed plant;
 - the nature of poultry manure;
 - best available techniques;
 - the nature of biomass.

This section elaborates on these discussions (7.2.1.2 and 7.2.1.3) and eventually identifies the policy outcomes and link them to the networking stages and network shape (7.2.2 and 7.2.3).

7.2.1.2 Ethical discussion: Sustainable poultry farming versus industrial poultry farming

In a nutshell

According to Statistics Netherlands' 2009 figures, we can talk about a large population of livestock in the Netherlands, consisting of 96.9 million chickens, 4 million cows, 12.2 million pigs, and 1.5 million sheep and goats¹⁴⁴. The Dutch livestock farming industry makes a major contribution to gross domestic product. According to the Netherlands Bureau for Economic Policy Analysis¹⁴⁵, the livestock industry created added value of around EUR 3 billion in 2005 and provided employment totalling more than 80,000 employment years, as well as

¹⁴⁴ Information retrieved from: <http://www.cbs.nl>

¹⁴⁵ *Centraal Plan Bureau* (CPB). Information retrieved from: <http://www.cpb.nl>

substantial employment in associated industry (e.g. the feed and food industry). With few exceptions, livestock farming in the Netherlands is generally characterised by high livestock densities, large numbers of animal, a high volume of national and international transport and heavy dependence on exports (Ministerie van Landbouw, Natuurbeheer en Voedselkwaliteit¹⁴⁶, 2007:18).

The poultry farming industry in the Netherlands is no exception to this. In this intensive sector with a high poultry density, manure is considered as a natural output, which needs to be handled within the sector. In this perspective, for the poultry farming industry, generating energy by incinerating the poultry manure appears to be a reasonable solution to the problem. As also emphasised by Cor Coenrady, the agricultural sector agrees with this idea, because if a closed circuit of poultry food and poultry manure is ensured, the poultry farming sector can ensure a better income for the farmers (Correspondence with Cor Coenrady, September 2010). However, this point is contested (see below).

Indeed, there are other voices in society, who take issue with the conventional style poultry farming industry. The intensity of these voices varies; and they reflect a number of interrelated concerns. However, the common critique is directed towards the whole *raison d'être* of the poultry farming industry, which is 'the mass production of eggs and chicken meat for commercial purposes'. *First*, it is contested whether such mass production, which would stimulate massive and cheap consumption of meat, is really needed. *Second*, it is argued that the poultry farming industry, which is productivity- and efficiency-oriented, can not sufficiently ensure the animals' well-being. In this context, incinerating the poultry manure is also criticised because 'it only serves to resolve the problems of the poultry farming industry' (Interview with Johan Vollenbroek, June 2010). Obviously, it is an ethical issue.

The alternatives proposed by the opponents of the intensive poultry farming industry are diverse. The majority of the opponents of the proposed Fibroned plant, i.e. the Netherlands Society for Nature and the Environment, the Environmental Federation of Gelderland¹⁴⁷, Johan Vollenbroek, *Vereniging Milieu Offensief*, the Foundation for animals' well-being, and the Dutch Association of Veganism, defend sustainable poultry farming, which ideally would be substantially smaller in size when compared with the conventional bio-industry. In this way, the chickens' health and well-being would be ensured in appropriate living conditions where they can express their natural behaviour. This is, however, the minimum requirement. For the latter two organisations, a world in which (poultry) meat consumption would fade away is, in fact, not far from the ideal.

¹⁴⁶ Ministry of Agriculture, Nature and Food Quality.

¹⁴⁷ The viewpoint of the Environmental Federation of Gelderland is shared by the Environmental Federations of North Brabant and Limburg, the Netherlands Society for Nature and the Environment and the Environmental Care Working Group Foundation of Apeldoorn.

On the other hand, there are also discussions about the extent of the sustainability of the organic chickens; i.e. regarding, for example, claims that biological hens cause the spreading of more ammonia than industrially raised-hens; the mortality rate of organic hens is higher than that of the industrial hens, etc. (National Geographic, 2009).

Other issues

With respect to the closed circuit idea of the agricultural sector, the opponents contest the environmental viability of the sector because, as argued, the circuit can not really be closed. Intensive cattle farming (and, in particular, the poultry industry) is criticised by the Environmental Federation of Gelderland and the Netherlands Society for Nature and the Environment because it causes mineral surplus in the Netherlands (where millions of tonnes of mineral-containing animal food are used from outside of Europe (for example, Brasil). In the supplying countries, the minerals in the soil of the agricultural fields are being extracted by feeding the livestock elsewhere, and there appears to be a mineral surplus in the Netherlands. The Environmental Federation of Gelderland believes that the 'mineral cycle'¹⁴⁸ in the Netherlands should be closed¹⁴⁹.

Another issue is concerning how to deal with the manure. Prof. Lucas Reijnders, in his article with M.A.J. Huijbregts, contests the alleged climate neutrality of animal waste incineration in the EU countries in terms of the life-cycle emissions of greenhouse gases. They draw the following conclusions: 'Life cycle emissions of burning animal waste are extremely sensitive to the allocation principle favoured. Besides, the indirect effects of burning animal waste, such as changes in fertiliser production and use and its impact on other types of waste processing, may substantially change the emissions of greenhouse gases' (Reijnders & Huijbregt, 2005:55)

Likewise, the Environmental Federation of Gelderland does not approve of the incineration of the poultry manure. For them, keeping the manure unprocessed and unincinerated is important so that it can go back to the soil as a valuable fertiliser¹⁵⁰.

However, the issue at this point is that there is excess manure in the Netherlands due to overproduction. As the Dutch professors who join forces against factory farming express: The Netherlands is the second export country in the world for meat and dairy products, but the country is far too small to carry the environmental damage produced by a large-scale livestock industry¹⁵¹. This raises the need to lower the production level.

¹⁴⁸ In Dutch: *kringloop*.

¹⁴⁹ Information retrieved from: <http://www.bezorgdeburgers.nl>

¹⁵⁰ *ibid*.

¹⁵¹ Information retrieved from: <http://www.duurzameveeteelt.nl>

Assuming that the amount of manure dealt with is not excessive, Concerned Citizens of Apeldoorn give the following information¹⁵²: 'Nitrogen is lost when the manure is incinerated. However, nitrogen needs to be added again when the residual product of Fibroned is used as a fertiliser. This costs energy. Besides, in the ash residues, as well as fertilisers such as phosphate and potassium, there are also pollutants such as metals and dioxines. These pollutants get into the nutrient cycle if the ash residues of Fibroned are processed by the fertiliser industry'. According to Prof. Lucas Reijnders, the ash residues also involve a high level of copper, which is not only harmful for animals i.e. sheep grazing on the lands fertilised by this sort of fertiliser can die, but it can also affect the long-term fertility of the ground.

Looking at the broader policy context, poultry farming, among other types of livestock farming, has been a policy issue for the Dutch government. For example, in 2001, the Wijffels Commission described a sustainable livestock production sector, in which animal well-being was paid attention. Minister Brinkhorst of Agriculture at the time, called the plans of Wijffels 'clear, thorough and inescapable' and planned to introduce the proposed reforms rapidly. In the parliamentary notes, *Keeping Animals* (2001) and *Animal Well-being* (2002) by Brinkhorst, these intentions were realised by placing animal well-being centre stage, as part of 'a transition to sustainable farming'¹⁵³.

The Animal Well-being report classified animal freedom in five components¹⁵⁴. That is to say, animals need to be free:

- from thirst, hunger and malnutrition;
- from discomfort by providing an environment suitable to their species;
- from pain, injury and disease;
- from fear and distress; and
- to express natural behaviour (Ministerie van Landbouw, Natuur en Voedselkwaliteit, 2002:4).

A relatively more recent document is the National Agenda for Animal Health 2007-2015, which devotes a section to commercially farmed animals and livestock farming (Ministerie van Landbouw, 2002:18-24). This policy document recognises that animal health and well-being can come under pressure in farming systems which are aimed primarily at boosting productivity, raising efficiency and protecting economic interests. Therefore, one of the objectives of the government for the period 2007-2015 is to stimulate sustainable livestock farming in which animal health policy is given a full role (Ministerie van Landbouw, 2002:18). In

¹⁵² This paragraph is based on the information retrieved from: <http://www.bezorgdeburgers.nl>

¹⁵³ Information retrieved from: <http://www.duurzameveeteelt.nl>

¹⁵⁴ This classification of animal freedom is based on that of the Brambell Commission (1965). These freedoms serve as the basis for policy in the areas of animal welfare; and for the legal animal welfare framework, as accepted by the Agriculture Council (Ministerie van Landbouw, 2002:4).

this context, the Dutch national government appears to hold a position which raises the need to reconcile both viewpoints of the ethical discussion. As such, the economic added value of the poultry farming industry needs to be preserved; while animal health and well-being, as also demanded by the environmental and societal organisations, needs to be ensured.

However, the attention of the Dutch national government to the need for such reconciliation is not as visible in other, but relevant policy areas. Looking at the national policy discussions on sustainable energy, the incineration of poultry manure as an output of conventional poultry farming is evidently seen as a solution not only for the circuit within the industry but also for the environment. As such, manure is identified as a type of biomass by the Dutch government. According to the Coal Covenant¹⁵⁵ of 24 April 2002, biomass is defined as material of short-cycle organic origin (both plant and animal based), and is aimed at energy production (a renewable energy source). Biomass comes from: (i) special energy-production-oriented cultivation (such as rape seed and miscanthus); (ii) residues (for example, from forestry and agriculture or the fruit sector); and (iii) waste streams (such as waste wood, organic fraction of waste, manure, old paper, and STP¹⁵⁶-sludge) (SenterNovem 2005:6). For those private parties who would like to generate energy from biomass, government subsidies are available. Agency NL¹⁵⁷, the facilitating organ of the Dutch Ministry of Economic Affairs, deals with the granting of these subsidies dedicated to sustainable energy (*Subsidie Duurzame Energie*).

The opponents of the poultry farming industry, as suggested above, also contest the idea of 'green energy' produced as a result of poultry manure incineration. As, for instance, Prof. Lucas Reijnders puts it, the energy production cost of poultry manure is three times more than the energy it generates; in this connection, 9 million tonnes of soy is imported annually in order to feed the chickens in the Netherlands¹⁵⁸. The Environmental Federation of Gelderland elaborated further on the same issue: that, for instance, the transport of the imported chicken food, and the heating and the drying of the manure costs so much energy. However, only 1/3 of this energy comes back in return, as the rest is used for eggs and meat, so not all that energy is won back by manure incineration. Moreover, this method does not reduce the CO₂ emissions, because the amount of CO₂ emitted for each unit of energy produced is higher than that emitted by a coal power plant¹⁵⁹.

This divided discussion evidently takes place to a large extent in the realm of ethics and science since it is shaped by different world views, values, and belief systems as well as by interpretation of scientific data. Although it seems that

¹⁵⁵ *Kolenconvenant*.

¹⁵⁶ Sewage Water Treatment Plant.

¹⁵⁷ Formerly called as SenterNovem.

¹⁵⁸ Information retrieved from: <http://www.fibronot.nl>

¹⁵⁹ Information retrieved from: <http://www.bezorgdeburgers.nl>

these ethical dimensions do not in themselves directly correlate with the official environmental permit procedure, they do in fact play a substantial role in steering the direction of policy discussions; and subsequent policy outcomes. In this respect, the proponents and opponents use other policy arguments, through the lens of their ethical positions. We will now look at these policy discussions.

7.2.1.3 Policy discussions around the environmental permit of Fibroned

If the ethical discussion, guided by the ideas, values, and beliefs, took place at the meta-level, the policy discussions involved more concrete, numerical discussions based on quantified data and the legal framework. The most concrete discussion item was clearly the 'environmental permit'. As such, the environmental permit, in one way or another, turned out to be an 'object of desire' with different meanings for different actors.

For Fibroned, obtaining the environmental permit has always been the ultimate goal. The experience, however, indicated that it would be a long journey to reach this goal. For the Province of Gelderland, the competent authority, it was essential to grant the environmental permit only if Fibroned would ensure it would comply with the emission norms, imposed by the legislation. For the environmental and societal actors, who were opposed to the poultry manure incineration proposal of Fibroned for diverse reasons, the environmental permit was a 'passport' for Fibroned, which should never be issued. Thus, they expressed their opinions by using their public participatory rights in order to prevent the granting of the environmental permit. Even so, the environmental permit was granted twice, first in 2001 and then in 2004. Each time these actors used their participatory rights in order to appeal against these permits; and the result was successful although it was achieved by other arguments. Thus, looking back over the last 12 years, the ethical struggle was materialised around the environmental permit. However, for those who opposed granting Fibroned an environmental permit, leading a discussion on the ethical grounds did not provide a concrete solution.

How did these actors then translate their ethical viewpoints into the policy context? How did they make sure they were heard and taken seriously in the decision-making processes?

These actors became involved in policy discussions in which they advocated certain policy arguments embedded in a legal-procedural context. These policy discussions, which were naturally multidimensional and ongoing/continuous, have taken place in the context of the following five themes, which were constantly contested: (i) emission levels; (ii) the technical nature of the Fibroned plant; and (iii) the nature of poultry manure; (iv) nature of biomass, and (v) best available techniques.

Emission levels

The emission levels that Fibroned proposed in their EIA report were highly contested on account of their possible impact on the public health and environment by a number of related actors; i.e. the Environmental Federation of Gelderland, Prof. Lucas Reijnders, Johan Vollenbroek, Concerned Citizens of Apeldoorn, and the Leefbaar Apeldoorn political party.

As such, the Environmental Federation of Gelderland emphasised that especially the high level of emissions of cadmium (Cd), mercury (Hg), the sum of some heavy metals, hydrochloric acid (*zoutzuur*) (HCl), carbon monoxide (CO), hydrocarbons(HCs), sulphur dioxide (SO₂), hydrogen fluoride (HF), and dust, all pose a threat to the environment and health¹⁶⁰.

According to Prof. Lucas Reijnders, the emission levels as suggested by Fibroned were too low when compared with those produced by the techniques they would adopt. In particular, the emissions of cadmium, mercury and dioxin were a high risk factor for the citizens. In addition, ammonia posed a risk for the ecological areas situated not far from Fibroned.

Johan Vollenbroek stood up prominently on this matter and got into contact with the Municipality of Apeldoorn and with Consultancy Company A. The Concerned Citizens of Apeldoorn, who were advised by Johan Vollenbroek, were alert to the subject matter as well, and gave their reactions to the Municipality of Apeldoorn and the Province of Gelderland. Against the rising level of social restlessness, the Municipality of Apeldoorn hired Consultancy Company B, an independent company to re-measure the emission levels and compare them with the values of Fibroned's EIA report (measured by the Consultancy Company A).

As a matter of fact, some of the mistakes identified in the measurement of the Consultancy Company A were corrected. Moreover, the independent expert report of Consultancy Company B, commissioned by the Municipality of Apeldoorn; as well as the StAB report, commissioned by the Council of State, indicated that the foreseen emission levels of the proposed Fibroned plant would be within the allowed norms (which meant the green light for the environmental permit). Nevertheless, the Concerned Citizens of Apeldoorn with 5000 supporters had already lost trust in Fibroned and the Province of Gelderland irrevocably. In fact, the resistance of the Concerned Citizens, after a certain point, seemed to be triggered more by their nested fear rather than the actual facts about air pollution and techniques

Besides the trust issue, Concerned Citizens of Apeldoorn were critical not only about Fibroned but also about the quality of the permit granting procedures of the Province. Moreover, they did not have confidence in the ability of the Municipality

¹⁶⁰ Information retrieved from: <http://www.bezorgdeburgers.nl>

of Apeldoorn to preserve the local air quality nor in their ability to give competent advice to the Province regarding environmental permits¹⁶¹.

Technical nature of the Fibroned plant: Waste incinerator or a large combustion plant?

As a matter of fact, one of the issues which fuelled the discussion on emission levels was linked to the contested technical nature of Fibroned. This line of contention became one of the underpinning threads of the policy discussion. The question was about resolving whether the Fibroned plant was a large combustion plant or a waste incinerator. This issue puzzled most of the actors, and not, surprisingly, polarised them into two groups.

Fibroned and the Municipality of Apeldoorn called the proposed Fibroned plant a bio-energy company or a power plant. These names refer in technical terms to a 'large combustion plant', to which a specific set of emission norms¹⁶² applies. These norms are less strict than those applied to a waste incineration plant. For a Large Combustion Plant (LCP), the LCP Directive and the BREF (BAT¹⁶³ Reference Document) LCP are applied. The latter document is also known as the BAT New Plants Biomass (Interview with Cor Coenrady, September 2010).

On the other hand, the Fibroned plant technically qualified as a waste incinerator according to the Province of Gelderland, as well as the environmental movement and the citizens of Apeldoorn.

For the Council of State (as also confirmed by StAB), on the other hand, Fibroned's investment proposal referred to a waste incinerator, annexed to an energy plant. A waste incinerator is subject to the Waste Incineration Directive and the BREF Waste Incineration (BAT New Waste Incinerators), and more strict rules apply to such incinerators¹⁶⁴ (Interview with Cor Coenrady, September 2010).

However, this distinction was not acknowledged by Fibroned since it applied strict waste incineration emission rules in practice; and it used the name 'power plant' because most of its income would originate from producing energy based on manure and other biomass and selling this energy (Correspondence with Pol Knops, January 2011).

¹⁶¹ Information retrieved from: <http://www.bezorgdeburgers.nl>

¹⁶² For LCP, the norm for maximum PM₁₀ (dust emission) is 20 mg/m³; for SO_x it is 300 mg/m³; and for NO_x it is 200 mg/m³. There is no allowance made for injection of the active carbon required in the flue gas, and nor are there regulations for carbonmonoxide, non-combustible hydrocarbons, chlorides, fluoride, heavy metals and dioxin (Correspondence with Cor Coenrady, September 2010).

¹⁶³ Best Available Technique.

¹⁶⁴ For the waste incinerators, the norm for maximum dust emission is 2 mg/m³; and for SO_x is 10 mg/m³; for NO_x it is 40 mg/m³. In addition to them (as common with the LCP emission norms), emission norm for carbonmonoxide is 20 mg/m³; and for fluoride, heavy metals and dioxin it is 0.005 ng/m³ (Correspondence with Cor Coenrady, September 2010).

Poultry manure: Biomass or waste?

The discussion on the waste incinerating position of Fibroned led to another relevant discussion: whether poultry manure was biomass or waste.

Contrary to the common idea, biomass and waste are not necessarily mutually exclusive. SenterNovem (2005) and Morgenstern and De Groot (2010) from the Dutch National Institute for Public Health and the Environment (RIVM¹⁶⁵) indicate that biomass, which is not produced in the first instance for the purpose of energy production, is waste. Even though the very same biomass eventually 'represents a certain economic value; or it serves a specific goal such as energy production; or it is at the same time a sustainable fuel', it is still seen as waste. And this fact is very relevant especially for the provincial policy because the provincial government is responsible for the establishments where waste incineration takes place.

Another interesting point in this discussion is the biomass categorisation in the Netherlands. It is divided into two groups: a 'white list' and a 'yellow list'. The white list involves those types of biomass which conform to the biomass definition, as described in the European Directive 2001/80/EG Large Combustion Plants. The Waste Incineration Decree (BVA) does not apply to the biomass types in the white list, but to the ones in the yellow list, which includes manure (Morgenstern en De Groot, 2010:33). In this respect, the bio-energy plants which incinerate biomass in the yellow list should conform to the emission-requirements of the Waste Incineration Decree at the minimum level.

As Cor Coenrady suggests (Correspondence, September 2010), the emission standards in the environmental permit of Fibroned were based on the Waste Directive and operating emission levels of new waste incineration plants in Europe. These levels were discussed on 19 May 2003 at a meeting between the Province of Gelderland, Fibroned, Consultancy Company C, Johan Vollenbroek, the Environmental Federation of Gelderland, and Concerned Citizens of Apeldoorn. The parties reached an agreement in this meeting that lower emission levels than those required by the Waste Incineration Decree, which were technically possible, would be striven for by Fibroned. However, on reconsideration, Fibroned became opposed to these levels for two reasons. As already explained (see Section 7.1.1.4) the contracting company of Fibroned did not agree to guarantee these emission rules on an hourly basis; and the lawyers of Fibroned saw problems with the enforcement of these rules.

The Concerned Citizens of Apeldoorn reacted to this meeting with an e-mail on 23 December 2003 relating to 'mismanagement of Fibroned'¹⁶⁶.

¹⁶⁵ *Rijksinstituut voor Volksgezondheid en Milieu.*

¹⁶⁶ *Wanbeleid van Fibroned.*

Biomass: Sustainable or not?

Poultry manure is defined by the Environmental Management Act¹⁶⁷, as a type of biomass. However, for some it is waste, while for others it is excess product (Correspondence with Pol Knops, January 2011).

When the 'waste' nature of poultry manure is emphasised, the method of poultry manure incineration comes on one of the lower rungs of what is called the Lansink Ladder, developed in 1979 by Lansink, a Member of the Parliament¹⁶⁸ of the time. This ladder indicates that incineration installations shall be used only if the priority order of waste processing methods as ranked in the Lansink Ladder, is not undermined. This priority order is as follows:

1. prevention;
2. product reuse;
3. material recycling (i.e. upcycling, recycling and downcycling);
4. incineration with energy gain;
5. incineration;
6. depositing (cited in Sargant, 2004:6).

Poultry manure incineration with the purpose of energy production falls under the fourth priority. This method fits well with the business-as-usual policy of the poultry farming industry, as long as the large-scale production continues. However, in the case of sustainable poultry farming, where the scale is reduced, the manure could be used instead as a fertiliser. This fits well with the 'product reuse' as the second priority order of the Lansink Ladder.

Concerning the sustainability of biomass, some developments took place in the broader policy context, although not directly relevant for the Fibroned case. In 2006, Minister Cramer of the Environment, asked an interdepartmental project group (with members from the Ministries, research organisations, and the private sector) to carry out research in order to develop criteria for the sustainable production of biomass.

These criteria involved six themes: greenhouse gas balance; competition with food, local energy facilities, medications and construction materials; biodiversity; welfare; well-being; and environment. These criteria were recently worked out by a technical team and translated into norms. The standards were formalised in March 2009 (Interview with Pol Knops, October 2010).

The Netherlands Society for Nature and the Environment and Greenpeace criticised these standards for being too flexible and argued that they did not necessarily guarantee the sustainability of the biomass.

¹⁶⁷ *Wet Milieubeheer.*

¹⁶⁸ *Kamerlid.*

More recently, in 2008, the Netherlands Society for Nature and the Environment and the Environmental Federations of the Provinces conducted a common research study questioning the sustainability of bio-energy. This research, which was partially subsidised by the Ministry of Economic Affairs, identified 31 types of biomass, and categorised them in four groups, i.e. i) *positive*; ii) *positive, but*; iii) *no, unless*; and iv) *negative*. Out of the 31 types of biomass, 4 types were categorised in the first group (positive); 11 types in the second group (positive, but); 8 types in the third group (no, unless) and 7 types in the fourth group (negative). Not surprisingly, animal litter incineration is placed in the 31st place, thus at the final end of the 'negative' category. The reason is two-fold: intensive cattle breeding is inherently unsustainable; and it produces high levels of greenhouse gas methane emission (Provinciale Milieufederaties & Stichting Natuur en Milieu, 2008). However, a distinction was not made between different types of commercial animal farming. Although this research has not yet exerted a direct influence on the Fibroned case, it is relevant to place it in the broader context. However, on the other hand, it is claimed that this is about manure digestion, not manure incineration (Correspondence with Pol Knops, January 2011).

Best Available Techniques

The discussion on the Best Available Technique (BAT) is closely associated with the discussion on the emission levels. At first the critique was related to the incorrect calculations of the emission levels; therefore, there was the fear that an environmental permit would still be granted, even if the emission levels of Fibroned exceeded the allowed norms. Later, as it was confirmed that the incorrect emissions had been corrected and they were within the allowed norms, then the concern was directed towards the necessity to keep the emission levels as near as possible to the lowest end of the allowed range. This would require that the best available techniques would be used and the ALARA¹⁶⁹ (As Low as Reasonably Achievable) principle would be followed by Fibroned. There were doubts about these points as well.

Even though the emission levels proposed by Fibroned would fall within the acceptable emission norms, Johan Vollenbroek argued that a better technique is available to lower the emission levels even more (although the stated emission level would be still within the norms) because the laws, as he suggested, were outdated. Prof. Lucas Reijnders stated that Fibroned uses a poor cleaning system for combustion gases and thereby unnecessarily harmful substances come into the environment. The current *stand der techniek* requires at least an electro filter, a baghouse with active carbon injection, and a wet scrubber¹⁷⁰. In regular incineration plants, all these have already been used for years¹⁷¹. As a reaction to that, Fibroned argued that the semi-dry system they propose had

¹⁶⁹ Both the BAT and ALARA principles were explained extensively in the Dutch Waste Incineration Decree, based on those of the IPPC guidelines.

¹⁷⁰ In Dutch: *gaswasser*.

¹⁷¹ Information retrieved from: <http://www.bezorgdeburgers.nl>

produced at least comparable results for the achievement of these emissions (Correspondence with Pol Knops, January 2011).

So, the issue moved into another realm: Fibroned was expected to strive for the emission values at the lower end of the allowed emission norms. This would bring on the BAT and ALARA discussions. While NGOs and citizen initiatives focused more on the BAT principle, Fibroned called more for the ALARA principle.

In fact, for the Concerned Citizens of Apeldoorn, if transparency together with the correct information about the emission levels proposed by Fibroned were the major critical issue, then the second such issue was about the cleaning techniques that Fibroned would use. Johan Vollenbroek, who is, simultaneously, the advisor of the Concerned Citizens of Apeldoorn, was critical about the legislation. He argued that the environmental legislation was too broad; and, within this legislation, the provinces made structurally the same mistakes. Thus, the Province of Gelderland, in his opinion, failed to require a company to use the most modern techniques to protect the environment (Interview with Johan Vollenbroek, June 2010). By the time the interview was made, Johan Vollenbroek had around 20 ongoing appeal procedures lodged with the Council of State in the fields of environmental issues, a part of which is relevant for the Province of Gelderland. In doing all this, he expressed his aim as succeeding to make the Provinces more critical when granting environmental permits (Interview with Johan Vollenbroek, June 2010)

According to Johan Vollenbroek, Provincial governments should not only set norms for the emission of the pollutants but also concretely require that the most modern techniques are used. It is true that the Province of Gelderland asked Fibroned to emit fewer pollutants in the second permit; but, with the flue gas purification method of Fibroned, it was not feasible. For Vollenbroek, the required limitation was a formality (een wassen neus)¹⁷².

7.2.2 Identification of the policy outcomes

The discussions around the Fibroned case revolved around the major policy objective of the Municipality of Apeldoorn. This objective is to facilitate the development of green energy in the Ecofactorij by means of poultry manure and biomass incineration (Municipality of Apeldoorn). The investment plan for the bio-energy plant is proposed by Fibroned.

The main policy instrument to realise this objective is the environmental permit. It is a regulatory instrument, introduced by the Dutch Environmental Management Act. The Province of Gelderland is the competent authority to assess and (eventually) grant the environmental permit to the investor. During this process,

¹⁷² Information retrieved from: <http://www.bezorgdeburgers.nl>

the Province of Gelderland made use of other instruments such as hiring external experts to support the technical environmental permit team; and a private mediator to facilitate the communication between the opposing parties.

During the environmental permit granting process, there were two related (sub-)instruments: the investors make an environmental impact assessment (EIA) report; and by means of public review and appeal procedure, citizens, environmental and societal organisations, companies and governmental organisations can:

- i) express their opinion in the public review process and public hearing about the EIA report and the draft environmental permits; and
- ii) appeal to the Council of State, which evaluates the cases with the technical advice of the StAB.

As a result, granting and revocation of the environmental permits were the next outcomes. Another policy outcome which arose within the broader context was considerations for the 3rd revision in the Zoning Plan of the Ecofactorij: on building and chimney height. The idea behind this revision was to regulate the building and chimney heights in order to accommodate the bio-energy plants, including Fibroned. However, the idea of the third revision was frozen due to the upcoming Zoning Plan. In addition, another policy outcome, in the form of influence back on the broader context was the change introduced in the national Noise Nuisance Law, which involved an updating of the outdated law.

7.2.3 Linking the policy outcomes to the network shape and to the networking stages

In terms of policy outcomes, we can talk about a major policy objective and a policy instrument. The objective was to produce green energy by the method of incinerating poultry manure and other biomass. The policy instrument was the environmental permit procedure. In this connection, the Environmental Management Act requires that the investor prepares an EIA report and requests an environmental permit from the competent authority, which, in this particular case, is the Province of Gelderland. Based on the legal procedures laid down by the Environmental Management Act, we can distinguish between two types of policy outcomes, i.e. granting the environmental permit and revocation of the environmental permit. In terms of policy networks, we can talk about two co-existing sub-networks, i.e. a policy community and an issue network. Obviously, these policy outcomes follow a certain order, which was laid down by the legal procedures around the EIA report and the environmental permit.

The two types of policy outcomes were in line with the procedural guidelines related to the EIA report and the environmental permit. This had an impact on the network shape, involving the policy community and the issue network, which co-existed.

In the network formation stage, there was only a policy community. However, from the network expansion stage onwards, there was another network inherent in the Fibroned case: that was an issue network.

Only once had the procedures begun did the environmental permit team of the Province of Gelderland, as the competent authority for the environmental permit process, turn into a neutral actor. In addition, over the course of the time, external experts/companies were hired to, for example, re-measure the contested emission levels; or to support the process of environmental permit granting.

As well as the policy community, there was an issue network, whose composition and intensity has changed at different times. Although high-cost environmental policies were introduced, the highly ethical nature of the discussion and the public mistrust in Fibroned's investment proposal, and in the procedures of the Province of Gelderland, contributed to the process, which ended up with the revocation of the environmental permits on two separate occasions. In both cases, the revocation was due to procedural issues, rather than the technical aspects; however, it is remarkable that the process was very cumbersome, although the EIA reports were within the technically acceptable norms, which led to granting the environmental permit twice.

Table 7.3: Policy outcomes over the course of networking stages and the change in the network shape

Networking stages	Types of policy networks and actors			Policy outcomes
	Policy community	Issue network	Neutral actors	
Network formation	<ul style="list-style-type: none"> - Fibroned - Consultancy Company A - Municipality of Apeldoorn - Provincial Executive Member Gelderland - Executive Management team Gelderland 	none	none	Policy objective: producing sustainable energy in the Ecofactorij by poultry manure incineration
Network expansion	<ul style="list-style-type: none"> - Fibroned - Consultancy Company A - Municipality of Apeldoorn 	<ul style="list-style-type: none"> - The Environmental Federation of Gelderland - <i>Vereniging Milieu Offensief</i> (also representing the Foundation for animals' well-being) 	<ul style="list-style-type: none"> - Province of Gelderland - Council of State 	Granting of the first environmental permit
Network reconstitution I		<ul style="list-style-type: none"> - The Environmental Federation of Gelderland (also representing the Netherlands Society for Nature and the Environment and the Environmental Care Working Group Foundation of Apeldoorn) - <i>Vereniging Milieu Offensief</i> (also representing the Dutch Association of Veganism) - Johan Vollenbroek (also representing the Contact Group of the Netherlands Society for Nature and the Environment) - Concerned Citizens of Apeldoorn 	<ul style="list-style-type: none"> - Province of Gelderland - Council of State - StAB - Consultancy Company B 	Revocation of the first environmental permit Hiring of a consultancy company (Company B) by the Municipality of Apeldoorn for an independent check of the emission values
Network reconstitution II		<ul style="list-style-type: none"> - The Environmental Federation of Gelderland (also representing the Environmental Care Working Group Foundation of Apeldoorn) - Johan Vollenbroek (also representing the Contact Group of the Netherlands Society for Nature and the Environment) - Concerned Citizens of Apeldoorn 	<ul style="list-style-type: none"> - Province of Gelderland - Council of State - Consultancy Company C 	Granting of the second environmental permit Hiring of a supportive consultancy company (Company C)
Network reconstitution III		<ul style="list-style-type: none"> - The Environmental Federation of Gelderland - Various appealing parties 	<ul style="list-style-type: none"> - Province of Gelderland - Council of State - StAB - Consultancy Company C - Private mediator 	Revocation of the second environmental permit
Network stagnation		<ul style="list-style-type: none"> - Various parties reacting to the draft EIA - Fibronot 	<ul style="list-style-type: none"> - Province of Gelderland - Consultancy Company D 	Hiring of a replacing supportive consultancy company (Company D) Change in the Noise Nuisance Law

The Fibroned case

Operationalisation Step 3

**Analysis of the dialectical relationships
underlying each policy outcome**

7.3 Analysis of the dialectical relationships underlying each policy outcome

7.3.1 Introduction

As delineated in Section 7.2., in the course of efforts to realise the policy objective of establishing a green energy facility in the Ecofactorij and by making use of the environmental permit in this process, four major policy outcomes came about: the granting and revocation of the first environmental permit and the granting and revocation of the second environmental permit. At this operationalisation step, I aim to explain how each of the policy outcomes was produced. This examination explains how variables such as network agency, network structure, the broader context and the ideational context interacted with each other and with the policy outcome. The identified policy outcomes came about along a path identified by official procedures.

7.3.2 Policy outcome 1: Granting of the first environmental permit

The background of the decision to grant the first environmental permit extends to two networking stages: network formation and network expansion. Throughout this process, the first fragment of the policy network appeared in the network formation stage in the form of a *policy community*. This policy community had Fibroned, the Municipality of Apeldoorn, and the Province of Gelderland as core actors. They had a common *interest* and their *resources* united them together in a close and tight policy community.

In this respect, Fibroned and the Municipality of Apeldoorn had mutual *interests*: The first aimed at establishing a biomass energy plant and considered Apeldoorn and the Ecofactorij Business Park as a good location. The latter's interest was closely embedded in the broader policy context linked to sustainable energy and sustainable business parks policy: *First*, the Municipality of Apeldoorn had the commitment to the CO₂ neutral ambition by 2020 in the City of Apeldoorn, which was the translation of the national sustainable energy policy and climate policy. *Second*, the specific ambition of the Municipality of Apeldoorn was to develop the Ecofactorij as a sustainable business park; and Fibroned would contribute to the aim by sustainable energy production. Thus, the actors, embedded in this broader context came together and formed the basis of a policy community. The Province of Gelderland joined this small *policy community* soon after, when it was invited by Fibroned to pay a technical visit to its Thetford Plant in the UK. The *strategic action* of Fibroned was in line with the interests of the Municipality and the Province with regard to expanding the business life and contributing to the CO₂-neutral policy.

The second fragment of the policy network: namely, the issue network, arose only in the next stage: namely, the network expansion stage. Some

environmental and societal organisations, such as the Environmental Federation of Gelderland, the Dutch Association of Veganism, *Vereniging Milieu Offensief*, and the Foundation for animal protection, who had something to say on this topic, formed the issue network. Citizen initiatives were not yet on the scene. The ideas of sustainable poultry farming played a pivotal role in institutionalising the issue network. The members of the issue network expressed opinions in the public review process of the draft environmental permits. In the first EIA report of Fibroned, *Vereniging Milieu Offensief* had an objection, and it led Fibroned to make a new EIA report. Later, the second draft environmental permit was cancelled, because the Environmental Federation of Gelderland identified a procedural mistake, related to how the draft permit was announced. There was also a neutral actor, who joined the environmental permit team.

It could be argued that, in the first instance, stand-alone actors, with the components of agency, stood out in the background of this policy outcome. In this regard, actors such as Fibroned, the Municipality of Apeldoorn and the Province of Gelderland, with their *resources* and *interests*, came together and formed the network in the shape of a policy community. The intertwined nature of these interests and resources ensured a *policy community* structure, which was institutionalised. The legal-institutional resources owned by the Municipality of Apeldoorn and the Province of Gelderland and the economic resources of Fibroned matched each other well. Overall, it was this *policy community* (network shape) embedded in the *broader context* which produced the policy outcome. The policy outcome was in the form of a *policy decision*: granting the environmental permit.

7.3.3 Policy outcome 2: Revocation of the first environmental permit

The second policy outcome involved the revocation of the first environmental permit. This time, the issue network embedded in the broader context stood out rather than the policy community. Legislation and procedures as a part of the broader context facilitated participation of the members of the issue network, i.e. the environmental and societal organisations, in the environmental permit process. They were able to express their opinions in a formal context and appeal against the granted environmental permit. Thus, the position of the issue network was strengthened due to the public participatory rights (legal resources), even though their appeal requests were refused by the Council of State.

Looking at it more closely, the ideas related to 'sustainable poultry farming' paradigm steered some of the actors of the issue network. Thus, the *broader context* (legislation, formal procedures), *ideational context* (sustainable poultry farming paradigm), and the *actor(s)* further institutionalised the structure of the issue network. The strategic action of the actors contributed to institutionalising the position of the issue network. Although the network structure was prominent, the role of the actor was undeniable. The most remarkable actor was Johan Vollenbroek, who, not only as an environmental expert, but also as an activist

and a member of Contact Group of Netherlands Society for Nature and the Environment, who strategically acted in the appeal process and mobilised the Concerned Citizens of Apeldoorn.

The path leading to the revocation of the environmental permit involved various activities. There were two features inherent in these activities: constant re-confirmation of the emission levels; and (request for and provision of) information.

Re-confirmation of the calculated emission levels

At the background of the societal restlessness, there was public mistrust about the calculated emission levels. With an effort to correct or reconfirm the calculated emission levels, a range of strategic actions took place. Expertise and knowledge was used as the input for the strategic action. For example, Consultancy Company A, hired by Fibroned, came to acknowledge some of the mistakes in the calculations (although the corrected levels were still within the acceptable norms). The Council of State requested StAB, its technical advisory unit to check the issues regarding the first environmental permit raised by the appellants. The Municipality of Apeldoorn asked Consultancy Company B to re-measure the emission levels. Leefbaar Apeldoorn, who was sceptical about the calculated emission levels, conducted its own research about the effects of Fibroned. The Province of Gelderland assigned research on risk evaluation in the surroundings.

Request for and/or provision of information

The Municipality of Apeldoorn organised an information meeting to inform the citizens and other societal actors; both Johan Vollenbroek and the Concerned Citizens of Apeldoorn visited the Province of Gelderland with request for information.

An interesting development which took place in this process was that the sustainable energy discussions in the broader policy context brought the EPL Realisation Award to the Fibroned proposal together with the Municipality of Apeldoorn (see 7.1.1.3).

Despite all the efforts to reconfirm the emission levels and the information exchange, the second policy decision came about as: the revocation of the first environmental permit. However, the revocation came out of a procedural failure: the residents within a radius of 1250 m of Fibroned should have been informed while, in practice, the residents within a radius of only 450 m were informed.

7.3.4 Policy outcome 3: Granting of the second environmental permit

The period in which the second environmental permit was granted was relatively less turbulent when compared with the period in which the first permit was revoked. During this new phase, the second EIA report was made by Fibroned

and a request for a new environmental permit was submitted to the Province of Gelderland, who finally decided affirmatively.

Because of the specialised and lengthy nature of the activities in this phase, the neutral actors, particularly, the Province of Gelderland, as the competent authority, was active. There were various internal meetings within the Province of Gelderland, i.e. with the Provincial Executive Board meeting; and with the Economy and Environment Commission of the Province. Consultancy Company C was hired by the Province of Gelderland, in order to strengthen its technical team dealing with the permit process. This strategic action strengthened the tight nature of the policy community.

However, the issue network was downsized, and the intensity of their activities relatively slowed down. It remained with Johan Vollenbroek, the Environmental Federation of Gelderland, and the Concerned Citizens of Apeldoorn. These parties were still active in expressing their opinions to the Province of Gelderland and to the media. However, the intensity of their activities was relatively slowed down.

In this sense, it could be argued that the granting of the new environmental permit was the product of the interaction between the legal procedures imposed by the broader legal-institutional context; the neutral actors implementing them and the issue network actors, acting and reacting upon the decisions and trying to influence the process and the achieved policy outcomes.

7.3.5 Policy outcome 4: Revocation of the second environmental permit

The policy decision to revoke the second environmental permit was closely connected to the interplay of network structure, an actor, and the broader context. Similar to the decision to revoke the first environmental permit, the policy community structure, on the one hand, and the issue network structure, on the other, were strengthened.

Both sub-networks were supported by the broader context. As such, the legislation and procedures as a part of the broader context gave the right to appeal to the citizens; therefore, the Council of State, as the appeal authority, and its advisory organ were once again in the neutral arena.

For a certain period throughout this phase, the Province of Gelderland hired a private mediator, who would reconcile the discussions between different actors including Fibroned, the Province of Gelderland, the NGOs and the Concerned Citizens of Apeldoorn. However, this approach, which did not appear to be a great help, was eventually abandoned.

At the same time, the broader context allowed environmental organisations and citizens to lodge an appeal against the permit. Thus, the structure of the issue network was also strengthened. Additionally, *network agency* played an extra stimulating role in the issue network. This role was particularly played by Johan Vollenbroek who not only strategically initiated the official appeal procedure but also served in a back-up role for the Concerned Citizens of Apeldoorn, due to his advisory position within this initiative. Evidently, the resources of Johan Vollenbroek, which were in this case his 'expertise' and 'activist spirit', both not only strengthened his own position but also facilitated him to reinforce the position of another actor: namely, the Concerned Citizens of Apeldoorn. The ideational context provided by the 'sustainable poultry farming' paradigm supported the issue network's structure, as well as the action of the actors of the issue network.

Similar to the previous time when the first environmental permit was cancelled, the revocation of the second one also involved a prominent network structure, i.e. the issue network, backed up with the broader context and the ideational context. However, the glue function between these variables was played by one actor, Johan Vollenbroek, who had an active role not only in initiating and running the procedures but also by stimulating the Concerned Citizens of Apeldoorn.

This new policy decision stimulated the Province of Gelderland to take a new strategic action by using its structural resource, i.e. its position as 'competent authority'. Namely, the externally hired consultancy company (Consultancy Company C) was replaced with another one (Consultancy Company D).

7.3.6 Synthesis

Looking back, in fact, *ideas* appear as a major driving force at the background of the whole debate on the poultry manure incineration. This is primarily related to the ethical discussion about the industrial versus sustainable poultry farming. The arguments behind the policy discussions were fed by the ethical values and beliefs. Some of these values and beliefs were partially backed up by scientific arguments, which sometimes diverged.

The *structural resources* of the *actors* enabled them to proceed in pursuing their value-laden standpoints. In this connection, the environmental and societal organisations had (relatively) large memberships (organisational resource); and, just like citizen initiatives, they had the right to participate (legal resource) in controversial public issues. A remarkable example is one of the actors in the issue network: Johan Vollenbroek, both as an expert and activist. He not only acted on the issue on his own and on behalf of the Netherlands Society for Nature and the Environment but also supported the Concerned Citizens initiative of Apeldoorn in the background as an opinion leader. At the core of the Concerned Citizens initiative was their fear of local air pollution in the immediate surroundings. They were not a direct part of the ethical discussion about the

sustainable poultry farming versus industrial poultry farming; nevertheless, they formed an important part of the opposition, acting upon their concerns for the quality of life and public health in their locality. The expertise and strategic action of Johan Vollenbroek facilitated the active involvement of the Concerned Citizens of Apeldoorn, thus broadening the scale of opposition against the production of energy by poultry manure incineration at the Ecofactorij.

Thus, the structural resources, held by the actors, formed the backbone of the sub-networks, i.e. the policy community, on the one hand, and the issue network, on the other. The members of the issue network often adopted a reactive position to the actions of the members of the policy community; and to the decisions made by the Province of Gelderland, as the competent authority, and the Council of State, as the appeal authority.

Major policy outcomes regarding the poultry manure incineration policy issue were the granting and revocation of the two environmental permits, in turn. In addition, there were other policy decisions taken during the course of these major policy outcomes.

The process of granting of the environmental permit involved the policy community in interaction with the Province of Gelderland's technical team, who were responsible for the environmental permit, and who held a neutral position. In these stages which culminated in the granting of the permit, the issue network members were busy mostly with lobbying in the background. These activities eventually contributed to the *process*, which led to the revocation of the permits in the subsequent phases. In the other stages, which resulted in the revocation of the permits, the Council of State (and the StAB, its technical advisory organ), which also held a neutral position, dealt with the appeal lodged by the environmental and other societal organisations, citizens, and others, who cooperated together and acted strategically.

The Province of Gelderland had a special position when compared with the other actors. As the competent authority, it had a neutral position during the granting of the environmental permits. The Province had a number of actors, who held different positions. In this respect, the Provincial Executive was the politician responsible for the Fibroned dossier, and worked on this issue in cooperation with the Department of the Environment and Water of the Province. Besides them, there was the technical team of the Province of Gelderland responsible for the environmental permit-granting procedures had a neutral position. The Province, due to its position, held different interests. Among other things, the Province needed to contribute to the economic vitality of the region. In this respect, revocation of the permits it granted did not contribute to the business-friendly image the Province aimed to project. Therefore, the Province made use of its structural resources in order to hire external companies to support its expert team working on the environmental permit procedures. In addition, it also hired a private mediator who would facilitate communication between different opposing

parties. In this respect, the Province aimed to keep the process of granting the environmental permit in the smoothest and most feasible way so that, as long as the technical standards of the Fibroned investment proposal complied with the legally allowed emission norms, the environmental permit would be granted. In this respect, the Province was not a direct party to the ethical discussion, but it rather appeared as an executor of the legal and technical procedures.

The change of the national Noise Nuisance Law is probably a unique example of how a policy outcome (revocation of the second environmental permit) exerted an influence back on the broader context. The change of the law was directly triggered by the policy outcome; however, it was the single network actor who brought this into effect, that is, Gert-Jan Oplaat, an industrial poultry farmer in the region, and a former Member of the Dutch Parliament, who drew the attention of other Members of Parliament to the fact that the law was outdated, and therefore, a revision was needed. His direct access to the law makers made it possible to change the law in accordance with the new technological standards (Interview with Pol Knops, October 2010).

It is clearly the actors, interpreting the broader context and ideas, who formed the two sub-networks. This process was shaped by the legal procedures, connected with the granting and the revocation of the two environmental permits. The Province of Gelderland, as the competent authority (neutral actor), was more active in the granting process of the environmental permit while it was the issue network which was influential in the process of appeal. Johan Vollenbroek was a leading actor in the issue network. It was particularly, the resources of these actors and their strategic actions which strengthened their influential position. The Province of Gelderland had political, legal, and financial resources; which allowed them to hire external experts to support the technical environmental permit team, whereas the expertise and the activist spirit of Johan Vollenbroek contributed to establishing his position.

The Fibroned case

Operationalisation Step 4

**Analysis of the dialectical relationships
across all policy outcomes**

7.4 Analysis of the dialectical relationships across all policy outcomes

7.4.1 Introduction

This level of operationalisation covers a look back across all policy outcomes and how they came about in the context of the dialectical relationships.

7.4.2 Dialectical relationships between structure and agency

7.4.2.1 Agency of the network

Involvement of various actors, which dynamically swayed from active to less active at various stages indicated a change in the shape of the network.

Within the policy community, evident from the earliest stage of the network, Fibroned was the core actor, in terms of not only activities but also of its highly contested position, which made it become an object of discussion. That is to say, the whole matter and its controversies revolved around Fibroned's investment proposal to produce energy by incinerating poultry manure.

The Municipality of Apeldoorn had interwoven interests in order to realise the CO₂-neutral climate policy by 2020 in the city, on the one hand, and expand business in the Ecofactorij Business Park, where it already strived for sustainability, on the other. Involving Fibroned in the Ecofactorij would serve both purposes of the Municipality of Apeldoorn.

The Province of Gelderland initially had a positive attitude towards the proposal of producing energy by poultry manure incineration. As the procedures started soon after, it conducted its 'competent authority' role. Due to this role, it was in charge of assessing neutrally the possibilities for an environmental permit and eventually granting it, provided that the legal conditions were fulfilled. The Province had two conflicting roles: the impartial authority it held in order to assess the merits of the EIA report of Fibroned and eventually deciding whether to grant them an environmental permit; but also its ever challenged position, due to the revocation of the two consecutive environmental permits, which they had granted. This conflicting position of the Province was also reflected in its different layers: the Provincial Executive Member, who was the politically responsible person, on the one hand, needed to ensure that the environmental permit was granted impartially; on the other hand, he was in the position of ensuring that the environmental movement and citizens were able to express their opinion openly in the process of public participation. However, as the outcome of the environmental permit process appeared to be technically positive, then the Province was in a position to grant the permit despite the rising oppositional voices of the society. There were also a few other voices, such as the Poultry

Farmers Association, which supported Fibroned. These voices were not as prominent in the media or in the public hearings.

Due to the highly complex and technical nature of the proposed activity and its permit application, a number of consultancy companies provided expertise to the parties who hired them. As such, Consultancy Company A was hired by Fibroned; and became a part of the policy community. There were other actors in the neutral arena, such as Consultancy Company B, hired by the Municipality of Apeldoorn; and Consultancy Companies C and D, which were consecutively hired by the Province of Gelderland in order to support the technical team of the environmental permit.

Regarding the environmental interests represented in the issue network, Johan Vollenbroek had a different position from the others mentioned above. As such, the presence of Johan Vollenbroek, as one of the pioneers of the issue network, against the Fibroned investment idea, was largely due to his personal standpoint, both as an expert on environmental emissions and also as an activist.

The Environmental Federation of Gelderland, the Netherlands Society for Nature and the Environment, and *Vereniging Milieu Offensief* were the environmental organisations, who at the same time represented other, sometimes smaller, environmental NGOs. Their strength came from: their expertise (informational resources), large membership; and their association with smaller NGOs (organisational resources); and the right to express their opinions (legal resources), as stated in the Environmental Management Act. On the financial side, the Environmental Federation of Gelderland was funded by the Province of Gelderland; the National Postcode Lottery; and other sources, such as the Ministry of Economic Affairs and the Ministry of Housing, Spatial Planning and the Environment, each contributing one-third. When dealing with the Fibroned case, the Environmental Federation of Gelderland deliberately used the funding provided by sources such as National Lottery, so that it could keep its independent position (Interview with Maarten Visschers, September 2010).

Of the citizen initiatives, the Concerned Citizens of Apeldoorn was certainly the core grassroots organisation, which was born as a direct response to Fibroned's proposal to produce energy by poultry manure incineration in the Ecofactorij. This initiative was backed up by Johan Vollenbroek, Environmental Federation of Gelderland and Prof. Lucas Reijnders. In addition, with the support of about 5000 citizens, as well some political parties, the Concerned Citizens of Apeldoorn acquired an active position in their relationship with the Municipality and the Province.

7.4.2.2 Structure of the network

As elaborated in Section 7.1.2.1, the shape of the network, as treated being equivalent to the network structure, indicated a policy community already at the network formation stage. From the second stage onwards, i.e. the network

expansion stage, an issue network arose alongside the policy community; and it dynamically evolved throughout the subsequent stages, especially until the network stagnation stage.

The stage of networking as of March 2011, identified as the network stagnation stage, involves the policy community, which had been at the core from the earliest moments. However, the issue network has adopted a relatively low profile, when compared with the earlier stages in which the two environmental permits were revoked in turn.

Policy community members were embedded in a broader policy context identified with sustainable business parks and sustainable energy. As such, the Municipality of Apeldoorn had the goal of becoming a CO₂-neutral city by 2020; and developing the Ecofactorij as a sustainable business park, in which green energy could be produced. Fibroned had the business goal of producing energy by incinerating poultry manure and biomass. Both actors were in harmony. The issue network members, on the other hand, were embedded in a broader ideational context, where there were ethical discussions on sustainable versus industrial poultry farming.

There were also neutral actors, who were embedded in a broader legal-procedural context. From the network expansion stage onwards, the Province of Gelderland, with its three internal members, including the environmental permit team, was a neutral actor. The competent authority role of the Province of Gelderland added to its strength: its ability to hire companies to support the team, and to hire a private mediator to negotiate between parties who had conflicting ideas. Depending on the official procedures, i.e. appeal procedures, other neutral actors such as the Council of State and the StAB joined and, eventually, left. There were moments when external independent expertise was needed; therefore, three different private companies got involved: Consultancy Company B was hired by the Municipality of Apeldoorn to re-measure the publicly contested emission levels of Fibroned; and Consultancy Companies C and D were consecutively hired by the Province of Gelderland to support the technical team of the Province working on the environmental permit procedure. Besides, the Province of Gelderland also hired a private mediator to ease the communication process between various actors.

The issue network, on the other hand, involved a variety of actors; however, the range of their involvement varied throughout different stages of the network. The core actors were Johan Vollenbroek and the Environmental Federation of Gelderland and eventually, the Concerned Citizens of Apeldoorn, which had about 5000 supporters. More radical environmentalist organisations were active in the first phase but then their involvement slowed down to some extent. However, the issue network has remained stable in its ability to exert influence, due to its strengthened structure and the strategic action of one particular actor, i.e. Johan Vollenbroek. He was, at the same time a member of the Contact

Group of the Netherlands Society for Nature and the Environment (see below for the specific position of the actors). The ideational context was in the background of the issue network.

7.4.2.3 Interaction of agency and structure of the network

The network structure involved a policy community and an issue network. However, these two pillars of the network structure were neither static, nor were they changing constantly or equally. The policy community was on the more stable side, but with its own specific dynamics of change. The Province of Gelderland held a special position as a neutral actor, since it was the competent authority.

The issue network appeared to have a more volatile nature, by its reactive attitude to urgent or controversial issues which arose. Therefore, it assumed a particular profile, swaying with the rhythm of the official procedures; hence, becoming more active in times of public hearings and appeal processes; and playing a deliberately less active role in times of long-term decision-making processes and/or policy stagnation or stability.

The actors' strategic action took place in various ways: while the policy community and the issue network, appear as the two major pillars of the network structure, their stability and change was closely correlated with the interests held and resources possessed by its actors; and their strategic interactions. Strategic interaction involves harmony at the intra-policy community level and at the intra-issue network level but it has more of an oppositional nature when it is between the policy community and issue network. As already argued, the policy community at the core of the Fibroned case was rather tight in nature and gained its strength being embedded in the broader policy context of CO₂-neutrality and sustainable energy production.

Within the issue network, one can talk about smaller sub-groups who cooperate with each other more closely than with the others. However, the cooperation between different actors is multidimensional and interwoven. For instance, Johan Vollenbroek stands as a major actor in three different positions: as an environmental expert who owns a consultancy company, as an activist, and as a member of the Contact Group of the Netherlands Society for Nature and the Environment. Within the issue network, he cooperates with the Environmental Federation of Gelderland, on the one hand, and supports the Concerned Citizens Initiative, on the other. In his interaction with the policy community, he communicates with the Municipality regarding some technical issues about the emission levels measured by Fibroned and Consultancy Company A; he also acts on behalf of the Concerned Citizens of Apeldoorn Initiative as a party in the appeal judged within the Council of State.

As clearly seen, the network actors, through their interests and structural resources, gave shape to the sub-networks. Resource dependencies between

the actors of the two sub-networks, on the one hand, and their mutual reactive encounters, on the other, further strengthened the impact of the actors on the network structure.

7.4.3 Dialectical relationships between the context and the network

The broader context of the Fibroned case is identified by a number of elements, which was in interaction with the network. These elements, together with their interaction with the network is elaborated below:

The Municipal sustainable energy policy

The 'sustainable energy policy' of the Municipality of Apeldoorn, which is posited within the national, international and the EU context, and provided the policy background for the welcoming approach of the Municipality of Apeldoorn to the investment proposal of Fibroned.

Public participatory procedures

Public participatory procedures, as a part of the public administration tradition and originating from the Environmental Management Act, and the Law of Openness of Public Administration, pave the way for the involvement of various societal actors: the procedure concerned with a new investment, involving controversial environmental implications, needs to be opened to public opinion. This facilitates the formation of an issue network, composed of members who oppose the investment proposal and who have an ability to express themselves. The right to get information, and the right to object and appeal to the Council of State are a few of the ways for the citizens and environmental organisations to play an active part of the decision making process. Furthermore, the actors in the issue network have the flexibility to put forward their own views.

Ideas at the meta-theoretical level lead the trajectories followed by the two sub-networks, i.e. the policy community and the issue network. In this respect, the ideational duality of industrial poultry farming versus sustainable poultry farming (see Section 7.2), partly backed up by science, guided the actors in taking their position in the policy discussions. They materialised their viewpoints around the 'environmental permit', which was a tangible policy outcome. Further, they followed a number of themes in policy discussions which contested the emission levels, the nature of the Fibroned plant, the nature of poultry manure and biomass, and the best available technique, etc. In essence, the paradigmatic dichotomy not only divided the network into two sub-networks, but also guided the actors in their strategic action. Even the actors within the issue network had variations in their ideas and priorities. These ideas underlay the position of the actors and their strategic interaction.

7.4.4 Synthesis: Dialectical relationships between the policy outcomes and the policy network embedded in the broader context

So far, I have examined the interaction between the network agency and network structure on the one hand, and between the broader context and the network, on the other. When the policy outcome is added into this scene, four major policy outcomes stand out. The granting of the first and the second environmental permit to Fibroned by the Province of Gelderland; and the revocation of both environmental permits by the Council of State. Each of these four policy outcomes were triggered by an interwoven interaction of the network structure, network agency and the broader context, but in varying intensity of interaction.

The investment proposal of energy production by poultry manure incineration found fertile ground in the City of Apeldoorn and in the Ecofactorij Business Park owing to the sustainable energy policy and sustainable business park ambition of the Municipality of Apeldoorn. Thus, the initiative is embedded in a broader context. This broader context is closely linked to the municipal policy context, concerning sustainable business parks and sustainable energy. This provided a background for a concrete project proposal to flourish in the course of the time.

From this point onwards, there is a push and pull relationship between the network, the context and the outcome. The outcome appears as a result of the interaction of the network and the context. Here, network, in the sense of shape of the network, is primarily a product of agency with its interests, resources and strategic interaction. The two sub-networks, i.e. the policy community and the issue network, come into existence with the actors' strategic interaction, interpreted in a broader context, primarily led by value-laden ideas and beliefs about (sustainable) poultry farming. In addition, there was a strong neutral arena, involving actors with legal power (i.e. competent authority and appeal authority).

Agency's ability to use its *structural resources* in further strategic action is most evident in the case of the Province of Gelderland. However, the Provincial Executive member and the executive civil servants of the Province of Gelderland, although bound by rules and regulations, did not consider themselves in a position to contest the idea of industrial poultry farming. They were rather in a position to make sure that the technical standards proposed by Fibroned, comply with the acceptable norms as required by the law. In this respect, in order to ensure a smooth process of policy making, the Province hired external experts in order to support the process of granting the environmental permit and a private mediator to facilitate communication between the oppositional parties.

While it is primarily the *strategic interaction* of the actors, which was embedded in a broader policy-, legal-constitutional and ideational-context; facilitated by the network structure, which exert influence on the policy outcomes, the achieved outcome leads to further strategic interaction between the actors, thus reshuffling the network structure. This is because each achieved outcome has its proponents and opponents, and once an outcome is reached, there is counter-

interaction, leading to redefinition of the positions of the actors in the sub-networks. In this respect, it could be argued that the broader context provides the playing field and sets the rule of conduct. Following that, the actors, who are dominated by the ethical values, and hold their own interests and resources, (re-)interpret the context and adapt their strategic action accordingly. Network structure comes into existence, embedded in a broader context; however, it gains flesh and blood only with the strategic interaction of the actors who make use of their structural resources.

The influence of the policy outcome back on the broader context has been most evident when the Dutch national Noise Nuisance Law was amended. This occurred following the revocation of the second environmental permit because Fibroned's investment proposal did not conform to the existing noise law. However, such influence as concrete as an amendment in the national law did not happen automatically, It took place in fact via the network agency: Gert-Jan Oplaat, a former Member of Parliament, a strong member of the bio-industry, current Chairman of the poultry farmers' interest group, and Head of the Chamber of Commerce Central Gelderland, took the initiative to bring this issue onto the national agenda and facilitated the concomitant change in the national law. Thus, the outdated law was adapted to the more advanced technical standards.

Overall, it could be argued that public mistrust about the poultry manure incineration, as a broader contextual factor, was an important factor which caused this process to be a long and complex one. Although the permits were granted twice because the Environmental Impact Assessment (EIA) reports were technically compatible with environmental standards, public resistance played a pivotal role in the process and the eventual revocation of the environmental permits.

Overall synthesis and

**'How does the revised dialectical model
work'?**

7.5 Overall synthesis and ‘How does the revised dialectical model work’?

So far, the revised dialectical model has been empirically applied at four operational steps. At the end of each operational step, a synthesis was provided. In this respect, the first operational step examined the interrelationship between the networking stages and change in the network shape (7.1). Secondly, the link between the policy outcomes and the networking stages, and the link between the policy outcomes and the shape of the network were elaborated (7.2). The third step of operationalisation focused on the dialectical relationships which underlay each identified policy outcome (7.3). Finally, the dialectical relationships were analysed across all policy outcomes (7.4).

The goal of this section is to look back over the syntheses of all the four operationalisation steps, provide an overview of them, and answer the question:

How does the revised dialectical model work?

Looking back over the first two operationalisation steps (Sections 7.1 and 7.2), there appears to be close interrelationships between networking stages, the network shape, and policy outcomes. Thus, these two steps can be integrated in a triangular form, involving interrelationships between:

- the networking stages and the network shape;
- the policy outcomes and the networking stages; and
- the policy outcomes and the network shape.

This triangular interrelationship can be observed in Figure 7.7 below:

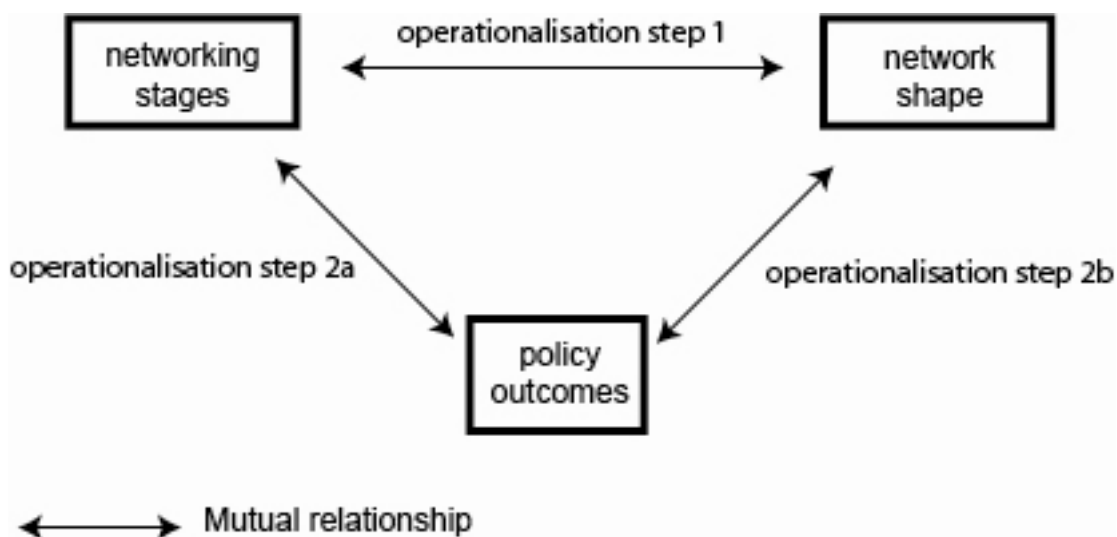


Figure 7.7: Interrelationships between networking stages, network shape, and policy outcomes

Looking at each of these relationships, specific conclusions can be drawn. These conclusions are presented below, by type of interrelationship.

Interrelationship between the networking stages and the network shape

- There were six networking stages identified throughout the life cycle of the policy network around the Fibroned case: network formation; network expansion; network reconstitution I; network reconstitution II; network reconstitution III; and network stagnation.

What triggered the formation of the policy network around the Fibroned case?

- The policy network was first formed in the shape of a policy community. The matching interests of the three actors in the policy community, and their initial strategic interaction triggered the formation of a policy community. This can be explained as follows: the investment proposal of Fibroned (*actor*) was received well by the Municipality of Apeldoorn (*actor*), which favoured the idea of sustainable energy production in the Ecofactorij Business Park (*actor interpreting the broader context*). Upon the invitation of Fibroned, the Municipality of Apeldoorn and the Province of Gelderland joined Fibroned in a technical visit to a similar power plant in the UK (*strategic interaction*).

How has the network shape evolved throughout the networking stages?

- The policy network around Fibroned's poultry manure incineration proposal started as a policy community in the network formation stage. When the official procedures started regarding the EIA report and Fibroned's request for an environmental permit, an issue network appeared which opposed Fibroned's proposal. Both the policy community and the issue network co-existed during the network expansion stage and three reconstitution stages of the network. The composition of the policy community remained the same, but, at times of appeal, the issue network expanded in size and activity, and, at other times, it became relatively smaller. In addition, neutral actors were involved who were responsible for assessing the environmental permit process (Province of Gelderland) and appeal procedures (the Council of State and the Technical Advisory Council) and technical and legal experts (a number of engineering and consultancy companies) to support the process. In the network stagnation stage, both the policy community and the issue network had a low profile.

What triggered the change in the network shape?

- There were two factors which triggered the change in the network shape. First, the ethical viewpoints divided the actors into two major groups. While the policy community remained stable, there were other actors, who formed an issue network. What brought these actors together in an issue network was their opposition to Fibroned's investment proposal. Some of

them were opposed to industrial poultry farming in principle; and others were concerned about the environmental risks of the proposed plant in their immediate vicinity. This ideational distinction between the policy community and the issue network, contributed to the institutionalisation process of the network structure.

- Second, the Environmental Management Act provided clear guidelines regarding the EIA report and environmental permit procedures. These guidelines also involved public participation and rights of appeal against the EIA report and the environmental permit request. As a matter of fact, this law brought a structure to the realm in which the policy community and the issue network both could take action. Thus, the rhythm of the bureaucratic procedures also imposed a pattern of involvement of the actors who opposed the production of energy based on poultry manure incineration in the Ecofactorij.

How does the revised dialectical model work?

- The model indicates that the Marsh-Rhodes continuum regarding the network shape is relevant in the Fibroned case. It helped identify the changes in the shape of the policy network associated with Fibroned's poultry manure incineration proposal.

Interrelationship between the networking stages and the policy outcomes

- The networking stages were delineated by the major policy outcomes, since the EIA and the environmental permit process had clear procedures and timelines, as imposed by the Environmental Management Act. These were: (i) granting, and (ii) revocation of the first environmental permit; (iii) granting; and (iv) revocation of the second environmental permit. Following the formation of the policy community at the network formation stage; the granting of the first environmental permit came about with the network expansion stage. Later, the revocation of the first permit and the granting and revocation of the second permit came about during the three consecutive stages of reconstitution.

How does the revised dialectical model work?

- There is a clear correlation between networking stages and the policy outcomes (the granting and the revocation of the first environmental permit and then the granting and revocation of the second environmental permit).

Interrelationship between the network shape and policy outcomes

During the process in which four major policy outcomes were produced, two sub-networks co-existed: These were a policy community and an issue network.

How does the revised dialectical model work?

- Although this dissertation does not primarily intend to test the argument regarding the linkages between policy stability and policy change in line with the network shape, the findings indicate that the presence of a tight policy community corresponds with policy stability or a relatively smooth process of policy making and implementation. When an issue network joined the policy network, demand for policy change became evident.
- Daugbjerg's proposition suggested that, where there is a policy community, we can talk about low-cost environmental policies, and, where there are issue networks, we can talk about high-cost environmental policies. However, interpreting this proposition based on the particular case of Fibroned's poultry manure incineration proposal is not as straightforward. *First*, there were certain technical standards required from the investor in their EIA report and their request for an environmental permit in order to ensure that the environmental quality and public health were protected. Thus, it cannot be argued that the procedures involved low-cost environmental policy, even though the network structure indicated a policy community. However, in practice, there were different ideas about these standards. Some of the issue network members were sceptical about the level of technical standards which were requested for the environmental permit; others were confident about the level of standards, but they were sceptical about Fibroned's ability or willingness to comply with the standards; and, finally, there were some others, who were partly or entirely sceptical about industrial poultry farming per se. Therefore, there were different interpretations regarding the policies at stake, whether they were high-cost or low-cost. Looking back at Daugbjerg's proposition once again, I argue that where there are issue networks, there is a 'demand' for high-cost environmental policies (i.e. demand for: (i) stricter compliance with the standards; (ii) a clear indication of Fibroned's emission levels; (iii) the replacement of industrial poultry farming with sustainable poultry farming).

How does the revised model work regarding the dialectical relationships?

Looking back over the third and fourth operationalisation steps, we can talk about how the revised model works when the mutual relationships between the four major variables (i.e. network agency, network structure, the broader context and policy outcome) of the model are analysed. The findings are elaborated below:

Finding 1: Network structure is shaped by agency (interests, resources and strategic interaction)

The network was formed as a policy community by three actors whose interests were in line with each other. So, it can be argued that it was agency and its interest, i.e. Fibroned (plan for an investment) and the Municipality of Apeldoorn (sustainable energy production in a sustainable business park in the City of

Apeldoorn) and the Province of Gelderland (sustainable energy production in a sustainable business park in the Province of Gelderland), which all formed and shaped the network structure in the network formation stage.

As for the network expansion stage, an issue network, alongside the policy community, joined, driven by the support of some actors for sustainable poultry farming and/or their concern for the environmental quality and public health.

Finding 2: Network structure is shaped by agency, which is embedded in the broader context

The broader policy context in which the actors were embedded had an influence on the network structure, which was composed of two layers.

First, the City of Apeldoorn, which was aiming for a CO₂-neutral energy policy for 2020, was engaged in a sustainable energy-friendly policy context. This certainly facilitated a receptive attitude to a bio-energy plant in the City. Therefore, the broader policy context had an indirect influence on the shape of the network as a policy community in the network formation stage.

Second, the EIA and environmental permit procedures, originating from the Environmental Management Act, imposed a framework and guidelines for the actors in the issue network to participate and express opinions. These procedures, as a part of the national legal context, facilitated the actors in the various sub-networks to take a position and strategically act by expressing opinions and using their right of appeal.

Finding 3: The ideas exert an indirect influence on the policy outcomes via network agency and structure

This indirect level of influence went through agency and structure. First, actors appeared who opposed Fibroned's proposal, by holding various arguments. They formed a number of sub-networks, which all together could be called an issue network. The actors within the issue network acted upon their ideas within the guidelines of the Environmental Management Act. In the process of appeal, eventually leading to revocation of the permit, lobbying activities appeared. Even though these were organised activities, in the end, the permits were revoked due to a procedural mistake or an outdated law.

A final word

The policy network which was formed around Fibroned's poultry manure incineration proposal dealt with a highly polarised ethical issue regarding sustainable poultry farming. At the same time, the issue was regulated within high technical standards and legal procedures involving the actors' right to participate and appeal. The ideas at the meta level and the broader policy and legal context played a significant role in shaping network agency and network structure and in reaching policy outcomes such as the granting and revocation of the environmental permits. Public mistrust as a hidden power was engrained in

the evolution of this case, and influenced the ultimate policy outcome of the revocation of the environmental permit.

Chapter 8

Conclusions and recommendations

8.1 Introduction

This dissertation has analysed the interdependence between policy networks and policy outcomes in the context of business parks in the Netherlands. For this aim, the dialectical model of the policy networks, which offered a promising perspective in understanding this interdependence, was revised, and operationalised. The revised dialectical model was applied to a single case study of the Ecofactorij Business Park in Apeldoorn. The focus was on (i) how the networking stages evolved and are linked to network shape; (ii) how policy outcomes are linked to network shape and networking stages; and (iii) how three types of dialectical relationships between the structure of the network and the actors participating in the network; between the network and the broader context it is embedded in; and between network and policy outcomes played a role during the planning, development, and management of the Ecofactorij as a sustainable business park. At the same time, the Ecofactorij Business Park contained within its boundaries a controversial discussion concerning the investment proposal by Fibroned, which aimed to produce energy by means of poultry manure incineration. This proposal triggered a polarised policy discussion regarding industrial poultry farming and sustainable poultry farming. The presence of such a policy debate within the boundaries of the Ecofactorij necessitated a closer look at the issue in a separate, yet embedded chapter.

This dissertation shows how, in one case, the cyclical development process related to the business park (the Ecofactorij) has evolved; and how in the other case, an issue (poultry manure incineration), which turned out to be highly contentious, was able to shake up the whole policy network; and how the decision-making process ultimately came to a halt. Taking this as a point of departure, I provide, in this final chapter, the conclusions of this dissertation, and make a number of recommendations. First, I highlight the key findings of this dissertation (8.2), based on the research questions (see Chapter 1). Following that, I substantiate a number of recommendations for policy makers (8.3). Second, I provide the conclusions on the revised dialectical model of the policy networks (8.4). In Section 8.5, I discuss the limitations of the use of the revised dialectical model of the policy networks. Third, conclusions and

recommendations on the research methodology are presented (8.6). Finally, recommendations for further research are provided (8.7).

8.2 Conclusions: key findings of the research questions

The revised dialectical model of the policy networks was empirically applied to a business park case in the Netherlands, i.e. the Ecofactorij Business Park, Apeldoorn. As well as this case, an embedded case study (the Fibroned case) was conducted on a particular theme, i.e. energy generation at the Ecofactorij by incinerating poultry manure, which was an actual issue there. These cases provided an opportunity to seek answers to the research questions. The key findings of this dissertation, based on the research questions, are as follows:

1. There is a triangular relationship between networking stages, network shape and policy outcomes

This finding can be explained by breaking the triangular relationship into three segments:

1.a Linking networking stages and network shape

Both case studies indicated that policy networks spawned a life cycle, identified by certain stages of networking. The identification of these stages helped to understand the evolution of the policy network (as well as what kind of policy changes accompanied this evolution).

Commonly experienced in both cases were the stages of: network formation, network expansion and reconstitution of the network. As of March 2011, the Ecofactorij Business Park policy network has been in the 'network stabilisation' stage; and the policy network in the Fibroned case has been at the 'network stagnation' stage.

The Ecofactorij policy network started as a tight and a closed policy community at the network formation stage. At the core of this policy community lies an intra-municipal network, which initiated the idea of a sustainable business park, and had the authority and technical capacity to develop this idea into a project. Throughout the stages of network expansion and network constitution I, the network structure became looser with the joining of two types of actors:

(i) The actors who joined on the periphery of the network, and who eventually left the network: during the making and revision of the Ecofactorij Zoning Plan, actors such as the Chamber of Commerce, environmental organisations, and citizens joined on the periphery of the policy network. These actors eventually left the network once their concerns for the economic feasibility or environmental quality were reflected in the Zoning Plan.

(ii) The actors who first joined on the periphery of the network and eventually made it to the core, thus, contributing to network transformation: In this regard, private enterprises working in the transport and logistics sector, which were interested in relocating to premises in the Ecofactorij Business Park, first appeared in various sub-networks on the periphery of the network. By the time, they had succeeded in making the sectoral change of the Ecofactorij which led to the inclusion of transport and logistics companies, not only did they join the Ecofactorij Business Park and expanded the Park Management Cooperative (PMC), but they also caused the shape of the network to move back to the policy community shape.

The policy community, during the stages of network reconstitution II and network stabilisation, was different than the policy community that existed during the network formation stage because it was dominated by the resident companies of the Ecofactorij and the PMC in the final stages.

The policy network around the Fibroned case was initially formed in the shape of a policy community. Once the Environmental Impact Assessment (EIA) and the environmental permit process began, an issue network co-existed with the policy community. This was due to polarised policy discussions with ethical underpinnings (i.e. poultry manure incineration, industrial poultry farming, sustainable energy, etc.). This made the execution process prolonged and cumbersome. This lengthy process entailed four subsequent stages, i.e. network expansion and network reconstitution I, II and III, marked by four consecutive steps, (i) the granting, and (ii) revocation of the first environmental permit; (iii) the granting; and (iv) revocation of the second environmental permit

1.b Linking networking stages and policy outcomes

The networking stages of both the Ecofactorij policy network and the embedded case on poultry manure incineration were guided by a number of policy instruments, e.g. the Zoning Plan and Quality Plan for the Ecofactorij Business Park; and the environmental permit for Fibroned. These instruments were based on the legal procedures that allow participatory decision making and the right of appeal.

Thus, the making and revision of the Zoning Plan of Ecofactorij, stemming from the Dutch Spatial Planning Act, extended to the network expansion and reconstitution I stages, in which various actors joined the network, and who consequently shifted the network shape away from just being a policy community. The subsequent stages: network reconstitution II and stabilisation, involved the implementation of the sustainability conditions imposed by the Quality Plan (however, in a modified form). The sequence of these plans also dictated a thematic focus. Hence, spatial economic policy principles were dealt with during the stages of network expansion, reconstitution I and II, as a part of the Zoning Plan, and the energy and transport conditions, as indicated by the Quality Plan, were confined to the subsequent stages of networking.

The investment proposal for poultry manure incineration, which involved the EIA report and the request for an environmental permit, fit with the policy objective of the Municipality of Apeldoorn to produce sustainable energy in the Ecofactorij. The subsequent policy outcomes concerned the granting and revocation of two consecutive environmental permits.

1.c Linking network shape and policy outcomes

In both the Ecofactorij case and its embedded case on the poultry manure incineration, a correlation was observed between policy community and policy stability, as well as a correlation between a looser network (as it was in the Ecofactorij case) and policy change, and an issue network (as it was in the Fibroned case) with policy instability. In the network formation stage of both cases, there was an evident policy community, with matching interests, which induced a common policy objective, i.e. developing the Ecofactorij as a sustainable business park; and producing sustainable energy in the Ecofactorij by means of poultry manure incineration. Within the Ecofactorij policy network, two other networking stages were identified with the policy community, i.e. network reconstitution II and network stabilisation. Here, we talk about a transformed policy community, which was dominated by the resident companies of the Ecofactorij and the PMC, as formed by these companies. Different from the policy community at the network formation stage, a tendency was observed that the policy community in the last two stages of networking attempted to modify and curb the conditions laid down in the Quality Plan in the fields of energy and transport policy.

When the network gained a looser structure in the Ecofactorij case, and when an issue network co-existed with a policy community in the Fibroned case, policy change or policy instability was more apparent. Here, the difference between the two cases needs to be emphasised. In the Ecofactorij case, the actors on the periphery of the network lobbied in order to introduce some changes in some items of the Zoning Plan. This was certainly different from the controversial voices raised in the issue network of the Fibroned case, where strong opposition to the investment idea was evident.

II. Each policy outcome has its own underlying dialectical relationships, but there are recurring patterns

The policy outcomes which came about, throughout the evolution of the Ecofactorij policy network, as well as that of the policy network around the Fibroned case, indicated interdependence between policy networks and policy outcomes. More specifically, the variables of the revised dialectical model, i.e. network agency, network structure, the broader context, and policy outcome, appeared to have interwoven relationships. In explaining this interdependence, it is important to note that these relationships do not follow a strict temporal order. As the revised dialectical model places the policy outcomes at the centre of the analysis of dialectical relationships, it is crucial to understand how the policy outcomes come about, and what interdependences exist between the variables

of the dialectical model at the background of each policy outcome. Even though each policy outcome has a unique explanation, with underlying dialectical relationships, there seems to be a certain pattern which repeats, and can provide an answer to questions such as: How did the policy outcomes come about in the Ecofactorij Business Park? How did the policy outcomes evolve regarding the investment proposal of Fibroned which included poultry manure incineration? What factors played a role in reaching these outcomes?

The recurring patterns of the dialectical relationships are as follows:

Pattern 1: The relationship between network structure and policy outcomes is indirect

The mutual interaction between the network structure and the policy outcomes appeared to be indirect in many instances in both cases. What happens in the realm between the network structure and policy outcomes? The interrelationship between the network structure and policy outcomes goes through the network agency, who interprets the broader context. Actors trigger the formation of the policy network by involving in strategic interaction, based on their interests and the resources they possess. Thus, agency rules the dynamic character of the dialectical relationships. It interprets the conditions imposed by the broader context and translates these elements into actions, which are eventually reflected in the network shape. The empirical evidence indicated that actors filter, interpret, react, and adapt to the conditions imposed on them by the broader context in which they are embedded and constitute, and transform the structure of the network to which they belong. How can the role of agency be further explained? This leads to the second recurring pattern (see below).

Pattern 2: Network actors have a dynamic role

It appeared in both cases that the major policy objectives and instruments were introduced by a single actor or a small segment of a policy community such as the intra-municipal network of the Municipality of Apeldoorn in the Ecofactorij case; and the Municipality of Apeldoorn together with Fibroned in the embedded case study. Parallel to that, the changes in the policy instruments during the earlier stages of the network were initiated by the governmental actors (e.g. the introduction of a special Quality Plan, linked to a land-price policy, for the Ecofactorij by the Municipality of Apeldoorn; and the improvement of the road infrastructure at the entrance to the business park). In the later stages of the network, changes in the policy instruments were motivated by individual or multiple actors. For instance, the heat and cold storage facility brought the companies of the Ecofactorij together with some external actors such as SenterNovem and TNO. The Collective Business Building and the Certificate for Sustainable Trucking Services were the initiatives of an individual resident company. The role of the broader context is clearly evident, especially in energy- and sustainability-related instruments. On the basis of the Ecofactorij case, it can be observed that, once a policy network started to settle down (the second stage of network reconstitution) and was stabilised, the initiative shifted from the

Municipality of Apeldoorn to the companies alone, or a group of companies under the auspices of the PMC.

It is clear that the actors were in the driver's seat not only in understanding the interdependence between the network structure and network agency; but also between the policy network and policy outcomes. Let us have a closer look. What makes agency the dynamic element of the model? The answer to this question lies in pattern 3 below.

Pattern 3: Agency with interests, resources, and strategic interaction, constituting the network structure

Actors appear to be the building blocks of the policy networks. Actors have their own interests on the subject matter, and use their resources when strategically interacting with each other. What brings the actors together is their dependence. Thus, by their interests, resources, and strategic interaction, they form the building blocks of the policy network.

In the Ecofactorij Business Park, the Municipality of Apeldoorn, with its interest in realising a sustainable business park, and therefore, assembling a multidisciplinary project team, and initiating a Zoning Plan and a Quality Plan, formed the core of the policy community. Later, other actors, such as the Chamber of Commerce and environmental organisations, joined during the public review process of the Zoning Plan. These actors had economic or environmental interests, and they held the power to exert influence derived from their legal rights for participatory decision making. With their own interests, these actors were interdependent around an issue; therefore, they contributed to the emergence of the policy network by their properties. These actors were at the periphery of the network, and they eventually left the network once the making and the review of the Zoning Plan were completed, and their demands were taken into account.

In addition to these actors, there was also a group of other actors acting individually or in sub-networks as a pressure group with the intention to join the Ecofactorij Business Park. As such, private enterprises working in the transport and logistics sector, who were interested in occupying premises in the Ecofactorij Business Park, first appeared in sub-networks on the periphery of the core policy community. By the time, they had succeeded in making the sectoral change of the Ecofactorij which led to the inclusion of transport and logistics companies, not only had they joined the Ecofactorij Business Park but they had also expanded the PMC. In this way, actors contributed to network transformation.

The Ecofactorij case study indicated that network actors can play an influential role in the introduction of new policy outcomes or in altering the existing ones. In doing that, actors, holding interests, use their structural resources and act strategically. Some of the instruments are already laid down by law; however, in their implementation, different interpretations may occur. It appears almost as if

actors adopt changing configurations per policy theme in which they are interested. As such, they form different sub-groups to make certain modifications in the policy outcomes.

In the Fibroned case, Fibroned with its investment plan for poultry manure based energy production at the Ecofactorij, the Municipality of Apeldoorn and the Province of Gelderland formed the policy community. These actors came together around a common interest, which, among other things, involved: 'promoting the business climate in the City of Apeldoorn and Province of Gelderland', 'producing sustainable energy based on biomass'; and 'meeting climate change related goals'. Later, throughout the application for an environmental permit, NGOs and citizen initiatives used their participatory rights in the public review process of the environmental permit. They were motivated by various reasons in their appeal against Fibroned's investment proposal to establish a bio-energy plant where poultry manure and other biomass would be incinerated in order to produce energy. They formed an issue network, and used their respective standpoints in order to interpret the broader context, and in determining their actions.

Pattern 4: Broader context sets the playing field

The broader context, involving sustainable business parks (as a part of the overall sustainability discussions in the Netherlands), played a prominent role in the decisions that were made during the planning and development phase of Ecofactorij Business Park.

In the Fibroned case, sustainable energy production was the major theme of the broader policy context. Broader policy discussions on the poultry farming and the ethical underpinnings involved an ideational context (see below) for the policy network around Fibroned's proposal. In addition, legal procedures and scientific viewpoints contributed as well to how actors solidified their positions and how certain policy outcomes were reached.

Pattern 5: The ideational context plays a crucial role in controversial cases such as sustainable energy production by poultry manure incineration

Neither the dialectical model of policy networks nor its revised version clearly indicated the role of an ideational context as such, i.e. as specifically exerting influence on the policy outcomes. Therefore, the ethical viewpoints regarding the poultry manure incineration were dealt with as a part of the broader context, on the basis of the argument that these viewpoints were an inherent part of the national policy discussions in the Netherlands. However, they could be treated as being elements of the ideational context, which had an influence on the actors, structure, and context, as observed in the embedded case study. Although this finding is based on a single case, it could be argued that controversial issues are often involved with polarised ideas with ethical underpinnings. In order to do more justice to the ideational context, the critique of Kisby (2007) (see Chapter 4

for a more extensive explanation) could be taken into consideration in future research (see Section 8.6), to treat it as separate from the broader context.

8.3 Policy recommendations

Making sustainability an intrinsic part of policy making

In a country like the Netherlands, where space is scarce, and there is constant pressure on the green areas, more efficient planning and development of the business parks is essential. Even if the former Ministry of Economic Affairs-initiated programme has already come to an official end, maintaining the concept of sustainable business parks in practice requires an integrated approach, both *temporally* and *thematically*. Here, ‘temporally’ refers to the cradle approach, that is to say from the planning phase to the management phase; and ‘thematically’ encompasses incorporating the sustainability principles not only in the spatial arrangements of the business park but also in the business processes of a group of companies in the business parks.

Matching the right business types to the right business parks

Learning from the Ecofactorij case, the transformation of the business park which was originally planned as a sustainable business park, into a park with sustainability ambitions, but, dominated by transport and logistics companies, requires quite considerable adaptation of the conditions as set by the Quality Plan. Ultimately, many conditions remained unimplemented or were considerably modified. A more careful assignment of the types of industries and sectors to the business parks in the planning phase would prevent the need for adaptation. The Ecofactorij Business Park could, for example, have been originally planned as a mixed business park, open to transport and logistics companies. This would have ensured that the Zoning Plan and the Quality Plan would have been formulated according to the sustainability principles in accordance with the sectoral composition of the business parks.

8.4 Conclusions on the revised dialectical model of the policy networks

My analysis acknowledges the theoretical virtue of the original dialectical model of policy networks in order to explain how policy networks influence policy outcomes, in particular its ability to bring together some of the major dualities of political science, such as structure and agency; and network and context, and put them in a dialectical perspective.

At the same time, I have indicated a number of weaknesses of the model, which needed to be overcome in order to achieve a better operationalisation. For this aim, I developed a revised version of the dialectical model and proposed to operationalise it within four operational steps. In the revised version, the original

model is followed in broad terms; however, the components of the model are elaborated in order to gain a better understanding in both theoretical and empirical terms. The variables of the revised version are elaborated as follows:

- Network agency, refers to the actors of the network, identified as both organisational actors and individuals, who are involved in *strategic interaction* in forwarding their own *interests* by making use of their *resources*.
- Network structure is treated as being equivalent to the shape of the network. In explaining the shape of the network, I use the classification of the Marsh-Rhodes approach regarding the policy network types based on four dimensions: membership, integration, resources and power. As such, 'policy networks' is used as a generic term. It encompasses a continuum, where, at one end, there is the *policy community*, and, at the other end, the *issue networks*. The term 'policy community' represents a tight membership structure with closed interests at the one end of the continuum, whereas the term 'issue networks' represents diverse interests and a looser membership, which dominate at the other end. There are also intermediate cases between policy community and issue networks.
- The broader context in principle involves the broader political-economic context, ideas, and the relevant policy context as well as case specific elements. A complete list of the components of the broader context needs to be compiled per case in a tailor-made fashion.
- Policy outcomes are at the centre of the revised version of the dialectical model. They are treated flexibly as involving policy objectives and policy instruments which might be the result of past policy decisions and serve as the starting point. Along with the objective and the instrument, certain policy outcomes are produced. Sometimes, these policy outcomes are curbed/modified/transformed, and, by these incremental changes, interim decisions are made. And sometimes, they can be in the form of non-decisions or no-implementation.

In the revised version of the dialectical model, I deliberately do not define dependent or independent variables. In the first instance, policy outcome might seem to be a dependent variable, whereas network structure, network agency and the broader context might appear to be independent variables. However, the dialectical nature of the relationships presumes iteration between the variables of the model. This makes each variable both an independent and a dependent variable at the same time, because dialectical relationships indicate dynamism in which variables exert counter-influence in return. This dynamism could clearly be observed:

- between network structure and network agency (and their strategic action) on the one hand; and between the network (both its structure and agency) and the broader context, on the other; and
- between the policy outcomes and all the above-mentioned three variables (structure, agency, and context).

Just like the dialectical model of Marsh and Smith, the revised version of the model acknowledges the influence of the policy outcome in return on the agency, structure, and the broader context. The influence of the policy outcome on the broader context can be direct (as well as indirect). In fact, the influence of broader context on the policy outcome is filtered through the network structure and agency.

How about Daugbjerg's proposition?

It is interesting to reconsider Daugbjerg's proposition which indicates that 'where there are issue networks, there is a tendency to have high-cost environmental policies (policies which put the high-level cost onto the polluters)', and, 'where there are policy communities, there is a tendency to have low-cost environmental policies' (policies which put the low-level cost onto the polluters). But, does this proposition work on the basis of the Ecofactorij case and its embedded case on the Fibroned proposal?

The answer is that the proposition is confirmed in both cases in broad lines. But the explanation is not straightforward since the nature of policies varied between the different networking stages in both cases, and therefore it is useful to examine this question throughout these stages of each case.

Concerning the Ecofactorij case, the grand policy objective (developing a sustainable business park) as adopted by the Municipality of Apeldoorn in the network formation stage, seems to qualify in the first instance as high-cost environmental policy since it is a precise and specific objective. However, in reaching this goal, two policy instruments (the Zoning Plan and the Quality Plan) were launched, which, as *regulatory instruments*, qualify as low-cost environmental policies. There were a number of modifications and changes introduced in the Zoning Plan, the most important one being, the inclusion of transport and logistics companies in the Ecofactorij. By this new policy decision, not all sustainability conditions of the Quality Plan could be implemented since this plan was made for the industrial sector. As a matter of fact, this meant in practice that the grand policy objective has been 'indirectly' modified owing to the changed composition of the business park, currently dominated by the logistics companies; thus, following the principles of industrial ecology was to a large extent no longer possible.

Moreover, the Quality Plan could be adjusted to individual conditions of the companies, which meant further modifications and sometimes non-implementation; and it involved inherently a positive economic instrument,

prescribing conditions for sustainability in return for a discount for the companies in the land price. As such, once the logistics companies were allowed to relocate in the Ecofactorij, many of the conditions such as exchange of energy and waste streams, or the bundling of commuter transport were not possible. Therefore, some conditions were not implemented, while others were kept with a low profile, or modified to a considerable extent. On the other hand, many of the sustainability conditions were prescribed in the third cluster of quality conditions, so it was optional for the companies to comply with these conditions. In fact, when closely examined, the policies formulated for the Ecofactorij were largely flexible and adaptable ones. As a result, some incremental initiatives were conducted for sustainability; some modified policies were achieved; and, finally, in some instances, there was evidence of no implementation.

It is interesting to note that the Ecofactorij Business Park had an image of having a high-cost environmental policy while the policy in practice was not as high-cost as it seemed to be. Although the initial intention of the Municipality was to develop a sustainable business park (high-cost environmental policy) the shift towards low-cost policies could possibly be explained by the fact that the flexible approach, which was adopted in the revision of the Zoning Plan and in the implementation of the Quality Plan, ensured that the companies would keep motivated to commit to sustainability – even if incremental. In this respect, it should also be borne in mind that this shift was taking place in the broader context, such as the macroeconomic recession, when the Ecofactorij was experiencing difficulties in attracting industrial companies to the Business Park, and would eventually allow more transport and logistics firms to locate in the Park.

In the Fibroned case, high-cost environmental policies were not modified or transformed into flexible principles, as happened in the Ecofactorij case. However, in this specific case, the existence of strong ethical discussions and a deep public mistrust played an important role. There were different opinions regarding the nature of these policies, e.g. whether they were high-cost or low-cost environmental policies. Moreover, some of the members of the issue network argued that the technical standards of an environmental permit, as required by the Environmental Management Act, were not strict enough to protect the environmental quality and public health; others expressed that there were difficulties in implementing these standards, as there were different ways of measuring the emission levels; and yet others claimed that industrial poultry farming involved, in principle, low-cost environmental policies. Therefore, the very idea of sustainable energy was contested as to involving high-cost or low-cost policies. The most appropriate conclusion based on Daugbjerg's proposition would be the following: Where there are issue networks, there is a 'demand' for high-cost environmental policies. Examples of the issues raised as demand would be: (i) stricter compliance with the standards; (ii) clear indication of emission levels; (iii) replacement of industrial poultry farming with sustainable poultry farming.

8.5 Limitations of the revised dialectical model of the policy networks

In understanding the interdependence between policy network and policy outcomes, the dialectical model of policy networks draws our attention to the interwoven relationships between four key variables, i.e. network structure, agency, the broader context and policy outcome. These interrelationships suggest explanations in terms of how policy outcomes come into existence through the lens of network structure and network actors, as well as through the broader context, as filtered by the policy network. Moreover, the interaction is seen as iterative, and there was scope to discover the influence of policy outcomes in return on the network structure, agency and the broader context. If public policy needs to identify patterns in how certain policy outcomes occur in relation to the policy networks, this model offers a basis for further studies which may help illuminate the specific dynamics between, for instance, policy outcomes and network structure; or, policy outcomes and network actors, etc. This was the point of departure – in a nutshell – as to why this dissertation had a specific interest in this particular model. Following a constructive critical review of the model, a revised version was proposed with operationalisation at four operational steps.

Three aspects of the revised model appear most important: (i) policy outcome was placed at the centre of attention within the analysis of the dialectical relationships; therefore, the three sets of dialectical relationships (as was in the dialectical model) was applied to each, identified policy outcome over the course of networking but also applied to all outcomes. (ii) the model offered four- steps of operationalisation; (iii) understanding networking stages and how they relate to the network structure and policy outcomes in particular was included in the first two steps of operationalisation.

However, the empirical application of the dialectical model is not without difficulties:

Theoretically, the dialectical relationships between (i) structure and agency; (ii) network and context; and (iii) network and outcomes are clear-cut. However, in the empirical application, each set of dialectical relationships seems to feed into the next one. In other words, the first set of dialectical relationships is clearly based on the structure and agency and their mutual interaction. When it comes to the second set of relationships, it proves almost natural to take the dialectical relationship between the structure and agency and integrate it into the next phase: thus, analysing their mutual relationship directly within the broader context. Finally, when it comes to the last set of dialectical relationships between network and outcome, it proves almost impossible to separate the network (structure and agency) from its embeddedness in the broader context. Again it seems natural to move the second set of dialectical relationships into the third

level where the policy outcomes come to the fore, thus integrating all the first three variables: structure, agency, and context.

Even though this model provides a thorough understanding and explanation of the case in theoretical terms, it has a drawback when applied empirically: understanding interwoven relations between multiple variables – while all variables are treated in a synchronised way – is cumbersome. In other words, in theory we need to put things in order so that things seem to follow sequentially. But, perhaps, in practice, policy outcome is already more interwoven with other factors. For example, dealing with the structured context, as being composed of two layers, i.e. the broader context and the network structure, brings empirical complications while theoretically it makes sense to distinguish them and examine their interlinkages.

8.6 Conclusions and recommendations on the research methodology

Single case study is often contested with the argument that one can not generalise from it. However, the strategic selection of a case (typical/representative case, in this dissertation), with an embedded design can provide opportunities for an in-depth analysis when the aim is to understand and explain certain phenomenon, such as the interdependence between policy networks and policy outcomes.

There is a need to conduct more research with single case-study design. Research projects which aim to ‘understand’ certain phenomenon could very well make use of single case-study design. The article of Flyvbjerg (2006) on case studies should be on the reading list of researchers. In this article, Flyvbjerg contests the conventional ideas about single case studies by discussing the common misunderstandings about it.

8.7 Recommendations for further research

The dissertation has attempted to revise the dialectical model of policy networks. The revision involved a consideration of what the weaknesses of the model were; and how the model could be strengthened by overcoming these weaknesses. The journey was interesting and eye-opening; yet it might continue by further exploring the implications of some of the novel aspects.

Given the fact that the revised dialectical model contained an elaborate analysis of the interwoven relationships between four major variables, future research could focus on: (i) a selected variable within the revised dialectical model; or (ii) one set of mutual relationships.

Regarding the selected variables, agency and ideational context can be further analysed. On what concerns the set of mutual relationships, the focus could, for instance, be directed to the following question:

What variables of the dialectical model are most evident in which particular stage of networking? (e.g. Is the network agency more prominent in the network formation stage or in the reconstitution stage, etc? In which networking stages, does network structure stand out, etc.?)

Research focusing on the links between (i) the policy outcomes and the network shape; (ii) the network shape and the networking stages; (iii) the policy outcomes and the networking stages, would be useful in enriching the understanding.

Elaborating on agency

As already elucidated in Chapter 3, the predecessors of the dialectical model, i.e. the Rhodes model and the Marsh-Rhodes approach, had primarily a structural tendency in explaining the influence of the policy networks on the policy outcomes. The dialectical model aimed to overcome this bias, and reached a level in which neither structure nor agency of the network dominated the other. However, the empirical application indicated various instances where agency appeared as the motor of change in the network structure. Agency, as the dynamic element, not only triggered the formation of the network but was also constrained/facilitated by it, as well as interpreting the conditions imposed by the broader context. Although the model theoretically implied an equal interactive relationship between the network structure and agency, the empirical application indicated a dynamic role played by agency. This role of the agency could be further explored. For example, how do the components of network agency play a role in their dialectical relationships with the structure, the broader context and policy outcomes.

The strategic relational approach of Colin Hay (1995 and 1998) deserves extra attention in better understanding the intentions and strategic actions of the actors. With a closer look, the dynamism of the network agency could be done more justice in the theoretical application of the model. Moreover, this approach emphasises the strategically selective structured context in which the actors and networks are embedded. Examining the dynamics of the strategically-selective structured context brings a specific focus and provides further insights.

Elaborating on the ideational context

Kisby (2007), in his critical analysis of the dialectical model of the policy networks, raised the importance of ideas, values, and beliefs, in understanding the dialectical relationship between policy networks and policy outcomes. Accordingly, he proposed adding the ideational structure (as encompassing ideas, values, and beliefs) in the dialectical model alongside the broader structure. As was evident from the embedded case study on the poultry manure incineration debates in the Ecofactorij Business Park, the role of the ideational

structure might come to the fore in understanding cases involving controversial debates and societal polarisation. A further direction for research would be elaborating on the ideational context.

Causal links between network types and policy outcomes

The need to empirically test and validate the causal links between the network type and policy outcomes was raised as a major critique in the policy network studies. This was, in particular, seen as a missing element in the Interest Intermediation school of policy networks. In this dissertation, a brief attempt was made to test the proposition of Daugbjerg (1998). Further exploration of this proposition could be a direction for future research.

Business parks research must go on!

This dissertation has provided a closer look at a business park which is currently in the realisation phase, but with a longitudinal look at how it emerged as an idea, and how it was subsequently planned, and developed. Interestingly, the selected case study involved a controversial public debate about energy production by means of poultry manure incineration, which has ethical considerations. An embedded case study on this particular debate also contributed to a rich case study. As already mentioned, obsolescent business parks are a current issue in the Netherlands. In future, the revised version of the dialectical model (with a specific focus on one variable or a set of mutual relationships) could also be tested on a business park in a (sustainable) revitalisation phase. A comparative case study could identify convergences and divergences between the way policy networks interact with the policy outcomes in both the new and the old business parks, both of which strive for sustainability.

The new approach of the Dutch government to business parks suggests the commercialisation/professionalisation of the market for the business parks. It would be interesting in the longer term to study how policy networks influence the implementation in those business parks which follow this new approach.

The revised version of the dialectical model could be tested on other controversial topics of a similar nature to poultry manure incineration, where public mistrust was dominant. This kind of empirical work could facilitate further exploration of the role of ideas and trust as a variable, and may help identify the ideational structure as a meta-context.

(Mis)trust, as it appeared to be the *invisible hand* in the embedded case study of this dissertation, deserves extra attention in public policy making, especially when dealing with the polarised issues.

A final word

Understanding the complex policy processes around seemingly simple and clear policy objectives, such as developing sustainable business parks and producing sustainable energy, leads us to the following questions:

How can these objectives be achieved in a more simple way?

How can congruent policy formulation and policy implementation be achieved throughout the planning, design, land allocation and management of sustainable business parks?

References

- Atkinson, M. M., & Coleman, W. D. (1989). Strong States and Weak States: Sectoral Policy Networks in Advanced Capitalist Economies. *British Journal of Political Science*, 19(1), 47-67.
- Atkinson, M. M., & Coleman, W. D. (1992). Policy Networks, Policy Communities and the Problems of Governance. *Governance*, 5(2), 154-180.
- Bedrijventerreinen. (2009). *Jaarboek Beste Bedrijventerreinen 2009*. Amersfoort: Elba Media.
- Benson, J. K. (1982). A Framework for Policy Analysis. In D. Rogers, D. Whitten, and Associates (eds), *Interorganizational Co-ordination: Theory, Research and Implementation* (pp. 137-176). Ames: Iowa State University Press.
- Benz, A. (1993). Commentary on O'Toole and Scharpf: The Network Concept as a Theoretical Approach. In F. W. Scharpf (ed.), *Games in Hierarchies and networks: Analytical and Empirical Approaches to the Study of Governance Institutions* (pp. 167-175). Frankfurt am Main: Campus Verlag.
- Bestuurlijke Werkgroep Uitwerkingsstrategie (her)inrichting bedrijventerreinen (werkgroep Jorritsma). (2009). *Regionale kansen voor kwaliteit. Handreiking voor uitvoeringsstrategieën in provinciaal en (inter)gemeentelijk bedrijventerreinenbeleid*. Den Haag: Bestuurlijk Overleg Bedrijventerreinenbeleid (EZ, VROM, IPO & VNG).
- Bevir, M., & Richards, D. (2009). Decentring Policy Networks: Lessons and Prospects. *Public Administration*, 87(1), 132-141.
- Blom-Hansen, J. (1997). A 'New Institutional' Perspective on Policy Networks. *Public Administration*, 75(4), 669-693.
- Bogason, P., & Zølner, M. (2007). Methods for Network Governance Research: An Introduction. In P. Bogason, & M. Zølner (eds), *Methods in Democratic Network Governance* (pp. 1-20). New York: Palgrave Macmillan.
- Boons, F. A., Baas, L. W., & Lambert, A. J. D. (1999). Industriële Ecologie: Naar Duurzame Ketens en Duurzame Bedrijventerreinen. In *Industriële Ecologie: Naar Duurzame Ketens en Duurzame Bedrijventerreinen* (pp. 9-19). Epe: Stichting Maatschappij en Onderneming.
- Börzel, T. A. (1997). What's so Special about Policy Networks?— An Exploration of the Concept and its Usefulness in Studying European Governance. *European Integration Online Papers (EioP)*, 1(16). Retrieved from: <http://eiop.or.at/eiop/texte/1997-016a.htm>. Date of Publication in the EioP: 25/8/1997.

- Börzel, T. A. (1998). Organising Babylon – on the Different Conceptions of Policy Networks. *Public Administration*, 76(2), 253-273.
- Bressers, H. Th. A. (1995). *Policy Networks and Choice of Instruments*. NIG Working Papers, No. 95-6. Enschede: Drukkerij Twente.
- Bressers, H., & Kuks, S. (2001). Governance Patronen als Verbreding van het Beleidsgrip. *Beleidswetenschap*. 1, 76-104.
- Bressers, H., & O'Toole, L. J., (1994). Networks and Water Policy: Conclusions and Implications for Research. In H. Bressers, L. J. O'Toole, L. J., & J. Richardson (eds), *Networks for Water Policy: A Comparative Perspective*, (pp.197-217). London: Frank Cass.
- Bressers, H., O'Toole, L. J., & Richardson, J. (1994). Networks as Models of Analysis: Water Policy in Comparative Perspective. In H. Bressers, L. J. O'Toole, L. J., & J. Richardson (eds), *Networks for Water Policy: A Comparative Perspective*, (pp.1-23). London: Frank Cass.
- Cashore, B., & Vertinsky, I. (2000). Policy Networks and Firm Behaviours: Governance Systems and Firm Responses to External Demands for Sustainable Forest Management. *Policy Sciences*, 33(1), 1-30.
- Coenen, F. H. J. M. (1998). Subsidised Seeds in Fertile Soil. In W. M. Lafferty & K. Eckerberg *From Earth Summit to Local Agenda 21: Working towards Sustainable Development* (pp. 153-179). London: Earthscan.
- Commissie Economie en Milieu. (2003). Verslag Vergadering, d.d 14 Mei 2003. Arnhem: Provincie Gelderland.
- Daugbjerg, C. (1998). Linking Policy Networks and Environmental Policies: Nitrate Policy Making in Denmark and Sweden 1970-1995. *Public Administration*, 76(2), 275-294.
- Daugbjerg, C. (1999). Reforming the CAP: Policy Networks and Broader Institutional Structures. *Journal of Common Market Studies*, 37(3), 407-428.
- Daugbjerg, C., & Marsh, D. (1998). Explaining Policy Outcomes: Integrating the Policy Network Approach with Macro-level and Micro-level Analysis. In D. Marsh (ed.), *Comparing Policy Networks* (pp. 52-71). Buckingham: Open University Press.
- De Bruijn, J. A., & Ten Heuvelhof, E. F. (1997). Instruments for Network Management. In W. J. M. Kickert, E. H. Klijn & J. F. M. Koppenjan (eds), *Managing Complex Networks: Strategies for the Public Sector* (pp. 119-136). London: Sage.
- De Wit, J. (2008). Demonstratieproject Ecofactorij: De Bodem als Buffer. BSE project 2020-02-12-37-001/4800001945. TNO-Rapport (2208-A-R0824/B).
- DeLeon, P., & DeLeon, L. (2002). What Ever Happened to Policy Implementation? An Alternative Approach. *Journal of Public Administration Research and Theory*, 12(4), 467-492.

- Dowding, K. (1994). Policy Networks: Don't Stretch a Good Idea too Far. In P. Dunleavy & J. Stanyer (eds), *Contemporary Political Studies 1994 Vol I* (pp. 59-78). Proceedings of the Annual Conference held at the University of Wales Swansea March 29th-31st 1994. Belfast: Political Studies Association. Retrieved from: <http://www.psa.ac.uk/journals/pdf/5/1994/dowd1.pdf>.
- Dowding, K. (1995). Model or Metaphor? A Critical Review of the Policy Network Approach. *Political Studies*, 43(1), 136-158.
- Dowding, K. (2001). There Must Be End to Confusion: Policy Networks, Intellectual Fatigue, and the Need for Political Science Methods Courses in British Universities. *Political Studies*, 49(1), 89-105.
- Dutch professors join forces against factory farming. (2010). 'Plea for Sustainable Livestock farming'. Retrieved from: <http://www.duurzameveeteelt.nl/english>
- Driessen, P., and Glasbergen, P. (1995). Strategies for Network Management in an Agricultural region: The Case of the Gelre Valley. In P. Glasbergen (ed.), *Managing Environmental Disputes: Network Management as an Alternative* (pp. 37-51). Dordrecht: Kluwer Academic Publishers.
- Driessen, P., & Vermeulen, W. (1995). Network Management in Perspective: Concluding Remarks on Network Management as an Innovative Form of Environmental Management. In P. Glasbergen (ed.), *Managing Environmental Disputes: Network Management as an Alternative* (pp. 155-178). Dordrecht: Kluwer Academic Publishers.
- Dudley, G. (2003). Ideas, Bargaining and Flexible Policy Communities: Policy Change and the Case of the Oxford Transport Strategy. *Public Administration*, 81(3), 433-458.
- Ecopadev. (2002-2004). Developing New Decision-Making Tools to Promote the Sustainable Development in European Cities based on Eco-Industrial Park Strategy. Key Action 4: City of Tomorrow and the Cultural Heritage. Framework Programme 5.
- Edelenbos, J., & Klijn, E. H. (2007). Trust in Complex Decision-Making Networks: A Theoretical and Empirical Exploration. *Administration & Society*, 39(1), 25-50.
- Evans, M. (2001). Understanding Dialectics in Policy Network Analysis. *Political Studies*, 49(3), 542-550.
- Fibroned. (2007). Presentation to Rotary. 17 September 2007.
- Flyvbjerg, B. (2006). Five Misunderstandings about Case Study Research. *Qualitative Inquiry*, 12(2), 219-245.
- Freriks, P. (2003). Fractievoorzitter SP. Schriftelijke Vragen aan het college van Gedeputeerde Staten van Gelderland Conform Reglement van Orde. Betreft Milieuvergunning Fibroned Apeldoorn. 23 December 2003.

- Geerlings, H. and Stead, D. (2002). Integrating Transport, Land-Use Planning and Environment Policy in European Countries, *European Journal of Transport and Infrastructure Research*, 2(3/4), 215-231.
- Gemeente Apeldoorn. (1999). *Bestemmingsplan Ecofactorij*. Apeldoorn: Gemeente Apeldoorn.
- Gemeente Apeldoorn. (2001). *Kwaliteitsplan de Ecofactorij*. Apeldoorn.
- Gemeente Apeldoorn. (2002). *Uitnodigingsbrief Informatieavond betreffende investeringsvoorstel kippenmestverbranding in Ecofactorij*. Apeldoorn: Gemeente Apeldoorn.
- Gemeente Apeldoorn. (2006). *1e partiele herziening van het bestemmingsplan Bedrijventerrein Apeldoorn-Oost: Ecofactorij: Betreft diverse aanpassingen*.
- Gemeente Apeldoorn. (2008). *Nota Geluidsruimte Ecofactorij*. Dienst MMO/afdeling Milieu, Februari 2008. 1^e Herziening 2008.
- Gemeente Apeldoorn. (2009). *Bedrijventerrein Apeldoorn-Oost: Ecofactorij, 2^e herziening, Betreft: drie windturbines op bedrijventerrein Ecofactorij, voorontwerp*.
- Gemeente Apeldoorn. (2010). *Milieu Monitor 2009*. Apeldoorn: Gemeente Apeldoorn, Dienst Openbare Werken, Afdeling Milieu.
- Geurs, K.T., and Ritsema van Eck, J.R. (2001). *Accessibility Measures: Review and Applications*. Bilthoven: RIVM.
- Glasbergen, P. (1989). *Beleidsnetwerken rond Milieuproblemen. Een Beschouwing over de Relevantie van het Denken in Termen van Beleidsnetwerken voor het Analyseren en Oplossen van Milieuproblemen*. 's Gravenhage: VUGA.
- Grin, J., & van de Graaf, H. (1994). Handelingstheorieën en Beïnvloeding in Netwerken: Ongelijksoortige Rationaliteiten en Congruente Betekenissen. *Beleidswetenschap*, 4, 349-366.
- Hanf, K., and Scharpf, F. W. (eds). (1978). *Interorganizational Policy Making*. London: Sage.
- Hay, C. (1995). Structure and Agency. In D. Marsh, & G. Stoker (eds), *Theory and Methods in Political Science* (1st ed.) (pp. 189-206). London: Palgrave Macmillan.
- Hay, C. (1998). The Tangled Webs We Weave: The Discourse, Strategy and Practice of Networking. In D. Marsh (ed.), *Comparing Policy Networks* (pp. 33-51). Buckingham: Open University Press.
- Hay, C., and Richards, D. (2000). The Tangled Webs of Westminster and Whitehall: The Discourse, Strategy and Practice of Networking within the British Core Executive. *Public Administration*, 78(1), 1-28.
- Hill, M., & Hupe, P. L. (2009). *Implementing Public Policy: An Introduction to the Study of Operational Governance* (2nd ed.). London: Sage.

- Hjern, B. and Porter, D O. (1981). Implementation Structures: A New Unit of Administrative Analysis. *Organization Studies*, 2(3): 211-227.
- Hupe, P. and Hill, M. (2007). Street Level Bureaucracy and Public Accountability. *Public Administration*, 85(2), 279-299.
- Howlett, M. (1999). Complex Network Management and the Governance of the Environment: Prospects for Policy Change and Policy Stability over the Long Term. Barnaby: Simon Fraser University. Retrieved from: <http://www.sfu.ca/~howlett/trends99.html>
- Huijben, J. A. W., and De Kroes, J. J. (1999). Via Samenwerking naar Industriële Ecologie: Naar Duurzame Ketens en Duurzame Bedrijventerreinen. In *Industriële Ecologie: Naar Duurzame Ketens en Duurzame Bedrijventerreinen* (pp. 75-90). Epe: Stichting Maatschappij en Onderneming.
- Interprovinciaal Overleg & Vereniging Nederlandse Gemeenten, Interdepartementaal Programma Bedrijventerreinen. (2010). *Roadmap Naar de Verzakelijking van de Bedrijventerreinenmarkt. Startdocument*. Den Haag: IPO, VNG & Interdepartementaal Programma Bedrijventerreinen.
- Jordan, G. (1990). Sub-Governments, Policy Communities and Networks. *Journal of Theoretical Politics*, 2(3), 319-338.
- Jordan, A. G., & Richardson, J. J. (1983). Policy Communities: The British and European Style. *Policy Studies Journal*, 11(4): 603-615.
- Jordan, G., & Schubert, K. (1992). A Preliminary Ordering of Policy Network Labels. *European Journal of Political Research*, 21(1-2), 7-27.
- Kenis, P., & Schneider, V. (1991). Policy Networks and Policy Analysis: Scrutinizing a New Analytical Toolbox. In B. Marin, & R. Mayntz (eds), *Policy Networks: Empirical Evidence and Theoretical Considerations*, (pp. 25-59). Frankfurt am Main: Campus Verlag.
- Kickert, W. J. M., Klijn, E. H., & Koppenjan, J. F. M. (eds) (1997). *Managing Complex Networks Strategies for the Public Sector*. London: Sage Publications.
- Kisby, B. (2007). Analysing Policy Networks: Towards an Ideational Approach. *Policy Studies*, 28(1), 71-90.
- Klijn, E. H. (1996). Analyzing and Managing Policy Processes in Complex Networks: A Theoretical Examination of the Concept Policy Network and its Problems. *Administration & Society*, 28(1), 90-119.
- Klijn, E. H. (1997). Policy Networks: An Overview. In W. J. M. Kickert, E. H. Klijn & J. F. M. Koppenjan (eds), *Managing Complex Networks: Strategies for the Public Sector* (pp. 14-34). London: Sage.
- Klijn, E. H. (2008). Governance and Governance Networks in Europe. *Public Management Review*, 10(4), 505-525.

- Klijn, E. H., Koppenjan, J. F. M. & Termeer, C. J. A. M. (1994). Managing Networks in the Public Sector: A Theoretical Study of Management Strategies in Policy Networks. Working Paper No. 12 in Research Programme 'Policy and Governance in Complex Networks'.
- Klijn, E. H., Edelenbos, J. & Steijn, B. (2010a). Trust in Governance Networks: Its Impacts on Outcomes. *Administration & Society*, 42(2), 193-221.
- Klijn, E. H., & Koppenjan, J. F. M. (2000). Public Management and Policy Networks: Foundations of a Network Approach to Governance. *Public Management*, 2(2), 135-158.
- Klijn, E. H., Steijn, B., & Edelenbos, J. (2010b). The Impact of Network Management on Outcomes in Governance Networks. *Public Administration*, 88(4), 1063-1082.
- Klijn, E. H., & Teisman, G. (1992). Besluitvorming in Beleidsnetwerken: Een Theoretische Beschouwing over het Analyseren en Verbeteren van Beleidsprocessen in Complexe Beleidsstelsels. *Beleidswetenschap*, 1, 32-51.
- Koppenjan, J., & Klijn, E. H. (2004). *Managing Uncertainties in Networks: A Network Approach to Problem Solving and Decision making*. London: Routledge.
- Laumann, E. O. & Knoke, D. (1987). *The Organizational State: Social Choice in National Policy Domains*. Madison: University of Wisconsin Press.
- Long, N. E. (1958). The Local Community as an Ecology of Games. *The American Journal of Sociology*, 64(3), 251-261.
- Louw, E., Needham, B., Olden, H., & Pen, C. J. (2004). *Planning van Bedrijventerreinen*. Den Haag: Sdu Uitgevers.
- Marin, B., & Mayntz, R. (1991). Introduction: Studying Policy Networks. In B. Marin, & R. Mayntz (eds), *Policy Networks: Empirical Evidence and Theoretical Considerations*, (pp. 11-23). Frankfurt am Main: Campus Verlag.
- Marsh, D. (ed.) (1998). *Comparing Policy Networks*. Buckingham: Open University Press.
- Marsh, D. (1998a). The Development of the Policy Network Approach. In D. Marsh (ed.), *Comparing Policy Networks* (pp. 3-17). Buckingham: Open University Press.
- Marsh, D. (1998b). The Utility and Future of Policy Network Analysis. In D. Marsh (ed.), *Comparing Policy Networks* (pp. 185-197). Buckingham: Open University Press.
- Marsh, D., & Furlong, P. (2002). A Skin not a Sweater: Ontology and Epistemology in Political Science. In D. Marsh, & G. Stoker (eds), *Theory and Methods in Political Science* (2nd ed.) (pp. 17-41). London: Palgrave Macmillan.

- Marsh, D., O'Toole, T. & Jones, S. (2007). The Context and Consequence of Political Participation: Citizenship and Governance in the UK. *Young People and Politics in the UK* (pp. 31-58). Basingstoke; New York: Palgrave Macmillan.
- Marsh, D., & Rhodes, R. A. W. (eds) (1992). *Policy Networks in British Government*. Oxford: Clarendon.
- Marsh, D., & Rhodes, R. (1992). Policy Communities and Issue Networks: Beyond Typology. In D. Marsh, & R. Rhodes (eds), *Policy Networks in British Government* (pp. 249-268). Oxford: Clarendon.
- Marsh, D., & Smith, M. J. (1995). *The Role of Networks in Understanding of Whitehall: Towards a Dialectical Approach*. Paper presented at the ESCR Local Governance Programme's Conference on Networks, University College Wales, Cardiff, May.
- Marsh, D., & Smith, M. (2000). Understanding Policy Networks: Towards a Dialectical Approach. *Political Studies*, 48(1), 4-21.
- Marsh, D., & Smith, M. J. (2001). There is More than One Way to do Political Science: On Different Ways to Study Policy Networks. *Political Studies*, 49(3), 528-541.
- McAnulla, S. (2002). Structure and Agency. In D. Marsh, & G. Stoker (eds), *Theory and Methods in Political Science* (2nd ed.) (pp. 271-291). London: Palgrave Macmillan.
- Ministerie van Economische Zaken. (1998). *Duurzame Bedrijventerreinen: Handreiking voor het Management van Bedrijven en Overheden*. Den Haag: Ministerie van EZ.
- Ministerie van Economische Zaken. (2004a). *Evaluatie van de Beleidsinstrumenten voor Bedrijventerreinen: STIREA, TIPP en DBT*. Den Haag: Ministerie van EZ.
- Ministerie van Economische Zaken. (2004b). *Pieken in de Delta: Gebiedsgerichte Economische Perspectieven*. Den Haag: Ministerie van EZ.
- Ministerie van Economische Zaken. (2004c). *Actieplan Bedrijventerreinen: Samenwerking aan Uitvoering*. Den Haag: Ministerie van EZ.
- Ministerie van Economische Zaken & Novem. (1999). *Werken aan Duurzame Bedrijventerreinen: Samenvatting van met Subsidie Gehonoreerde Projecten in 1999*.
- Ministerie van Economische Zaken & Novem. (2000). Statiegeld op Grondprijs: Ecofactorij Apeldoorn. In: *Werken aan Duurzame Bedrijventerreinen 2: Samenvatting van met Subsidie Gehonoreerde Projecten in 2000*.
- Ministerie van Infrastructuur en Milieu & Arcadis. (2010). *IBIS Werklocaties: De Stand van Zaken in Planning en Uitgifte van Werklocaties op 1 Januari 2010 en de Uitgifte in 2009*. Retrieved from

<http://www.bedrijvenlocaties.nl/publicaties/rapportages/114722.aspx?t=Rapport%20IBIS%20werklocaties%202010>.

- Ministerie van Landbouw, Natuurbeheer & Voedselkwaliteit. (2002). *Dierenwelzijn; Beleidsnota Dierenwelzijn*. Tweede Kamer, vergaderjaar 2001–2002, 28 286, nr. 2. Den Haag: Sdu.
- Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer & Arcadis. (2010). *IBIS Werklocaties: De Stand in Planning en Uitgifte van Werklocaties op 1 Januari 2009 en de Uitgifte in 2008*. Retrieved from: <http://www.bedrijvenlocaties.nl/publicaties/rapportages/90271.aspx?t=Rapport%20IBIS%20werklocaties%202009>.
- Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer, Ministerie van Economische Zaken, Interprovinciaal Overleg & Vereniging Nederlandse Gemeenten. (2009). *Convenant Bedrijventerreinen 2010-2020*. Publication number: 9304. Den Haag: Ministeries van VROM en EZ, IPO & VNG.
- Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer, Ministerie van Economische Zaken, Ministerie van Landbouw, Natuurbeheer en Voedselkwaliteit & Ministerie van Verkeer en Waterstaat. (1997). *Nota Milieu en Economie: Op Weg naar een Duurzame Economie*. Den Haag: Ministeries van VROM, EZ, LNV, & VenW.
- Morgenstern, P. P. & De Groot, G. M. (2010). *Bio-energiecentrales. Inventariserend Onderzoek naar Milieuaspecten bij Diverse Energieopwekkingstechnieken met Behulp van Biomassa*. Bilthoven: Rijksinstituut voor Volksgezondheid en milieu (RIVM), rapport 609021104/2010.
- National Geographic. (2009). Het Kippendilemma: Klimaat of dierenwelzijn?, *National Geographic Nederland – België. Groen doen (speciale uitgave)*. 44-45.
- Official Gazette (*T.C. Resmi Gazete*) No. 24713, dated 01/04/2002, Republic of Turkey. Law on Organised Industrial Zones (*Organize Sanayi Bölgeleri Kanunu*) dated 15/04/2000 with number 4562; Regulation on Industrial Organized Zones (*Organize Sanayi Bölgeleri Yönetmeliği*), Retrieved from: <http://mevzuat.basbakanlik.gov.tr/Metin.Aspx?MevzuatKod=1.5.4562&sourceXmlSearch=&MevzuatIliski=0#>.
- Osborne, S. P. (2006). The New Public Governance? *Public Management Review*, 8(3), 377-387.
- Osborne, S. P. (ed.) (2008). *The Third Sector in Europe: Prospects and Challenges*. New York: Routledge.
- Osborne, S. P. (ed.) (2009). *The New Public Governance: Emerging Perspectives on the Theory and Practice of Public Governance*. New York: Routledge.
- Osborne, S. P. (2009). Debate: Delivering Public Services: Are We Asking the Right Questions? *Public Money & Management*, 29(1), 5-7.

- O'Toole, L. J. (1997). Treating Networks Seriously: Practical and Research-based Agendas in Public Administration. *Public Administration Review*, 57(1), 45-52.
- O'Toole, L. J. (2000). Research on Policy Implementation: Assessment and Prospects. *Journal of Public Administration Research and Theory*, 10(2), 263-288.
- O'Toole, L. J. (2002). *Implementation Theory and the Challenge of Sustainable Development: The Transformative Role of Learning on Both Theory and Practice*. Inaugural Lecture. Enschede: University of Twente Publications.
- O'Toole, L. J., Hanf, K. I., & Hupe, P. L. (1997). Managing Implementation Processes in Networks. In W. J. M. Kickert, E. H. Klijn & J. F. M. Koppenjan (eds), *Managing Complex Networks: Strategies for the Public Sector* (pp. 137-151). London: Sage.
- Pellenburg, P. H. (2002). Sustainable Business Sites in the Netherlands: A Survey of Policies and Experiences. *Journal of Environmental Planning and Management*, 45(1), 59-84.
- Pestman, P. and van Tatenhove, J. (1998). Reflexieve Beleidsvoering voor Milieu, Ruimtelijke Ordening en Infrastructuur: Nieuwe Initiatieven nader Beschouwd. *Beleidswetenschap*, 3, 254-272.
- Peters, G. (2007). Virtuous and Viscous Circles in Democratic Network Governance. In E. Sørensen, & J. Torfing (eds), *Theories of Democratic Network Governance* (pp. 61-76). New York: Palgrave Macmillan.
- Projectgroep Duurzame Productie van Biomassa. (2006). *Criteria voor Duurzame Biomassa Productie. Eindrapport van de Projectgroep "Duurzame Productie van Biomassa"*. Den Haag: Task Force Energietransitie.
- Provan, K. G. & Milward, H.B. (1991). Institutional-Level Norms and Organizational Involvement in a Service-Implementation Network. *Journal of Public Administration Research and Theory*, 1(4), 391-417.
- Provinciale Milieufederaties & Stichting Natuur en Milieu. (2008). *Heldergroene Biomassa: Een Visie op de Duurzaamheid van Bio-energie*. Utrecht: De Provinciale Milieufederaties en Stichting Natuur en Milieu.
- Provincie Gelderland. (2001a). Voorschriften behorende bij de Definitieve Beschikking D.D. 16 Oktober 2001, Nr. MW99.23944.van op de Vergunningaanvraag Ingevolge de Wet Milieubeheer van Gedeputeerde Staten van Gelderland.
- Provincie Gelderland. (2001b). Beschikking D.D. 16 Oktober 2001 op de Vergunningaanvraag Ingevolge de WET Milieubeheer van Fibroned B.V. te Apeldoorn, Nr. MW99.23944.
- Provincie Gelderland. (2003a). Risico-evaluatie van de Emissie van Diverse Stoffen naar de Lucht van Fibroned te Apeldoorn. Februari 2003. Arnhem.

- Provincie Gelderland. (2003b). Verspreidingsberekeningen Fibroned te Apeldoorn. Juni 2003.
- Provincie Gelderland. (2001b). Beschikking D.D. 3 Februari 2004 - Nr. MW03.15547 van Gedeputeerde Staten van Gelderland.
- Provincie Gelderland. (2003). Analyse van de Vernietiging van de Milieuvergunning van Pluimveemestverbrandingsinstallatie Fibroned te Apeldoorn. 9 mei 2003.
- Provincie Gelderland. (2005). Statennotitie: Fibroned, Vergunning Wet Milieubeheer. (6 september 2005). PS2005-672.
- Provincie Gelderland. (2006). Statennotitie: Fibroned, Vergunning Wet Milieubeheer. (6 juni 2006). PS2006-458.
- Raab, C. D. (2001). Understanding Policy Networks: A Comment on Marsh and Smith. *Political Studies*, 49(3), 551-556.
- Raad van State, Afdeling Bestuursrechtspraak. (2002). Uitspraak RvS 200106102/2. Voorlopige voorziening
- Raad van State, Afdeling Bestuursrechtspraak. (2003a). Uitspraak RvS 200204187 Verandervergunning bodemprocedure.
- Raad van State, Afdeling Bestuursrechtspraak. (2003b). Uitspraak RvS 35635/H M 200106102/1 Bodemprocedure.
- Raad van State. (2003c). *Milieuvergunning Fibroned ten Onrechte Verleend*. Persbericht 5 maart 2003.
- Raad van State, Afdeling Bestuursrechtspraak. (2004). Uitspraak RvS 200402102 Voorlopige Voorziening.
- Reijnders, L. (2001). Commentaar op Oprichtingsvergunning Fibroned d.d 16 oktober 2001 van Gedeputeerde Staten Gelderland.
- Reijnders, L. & Huijbregts, M A. J. (2005). Life Cycle Emissions of Greenhouse Gases associated with Burning Animal Wastes in countries of the European Union. *Journal of Cleaner Production*, 13, 51-56.
- Rhodes, R. A. W. (1981). *Control and Power in Central-Local Government Relations*. Aldershot: Gower.
- Rhodes, R. A. W. (1983). Can there be a National Community of Local Government? *Local Government Studies*, 6(6), 17-37.
- Rhodes, R. A. W. (1986). *The National World of Local Government*. London: Allen and Unwin.
- Rhodes, R. A. W. (1987). *Central-Local Government Relations: A Panel Report to the Research Initiatives Board*. London: SSRC.
- Rhodes, R. A. W. (1988). *Beyond Westminster and Whitehall: The Sub-Central Governments of Britain*. London: Unwin-Hyman.

- Rhodes, R. A. W. (1990). Policy Networks: A British Perspective. *Journal of Theoretical Politics*, 2(3), 293-317.
- Rhodes, R. A. W. (1996). The New Governance: Governing without Government. *Political Studies*, 44(4), 652-667.
- Rhodes, R. (1997). *Understanding Governance: Policy Networks, Governance, Reflexivity and Accountability*. Buckingham and Philadelphia: Open University Press.
- Rhodes, R. A. W., & Marsh, D. (1992a). Policy Networks in British Politics: A Critique of Existing Approaches. In D. Marsh, & R. Rhodes (eds), *Policy Networks in British Government* (pp. 1-26). Oxford: Clarendon Press.
- Rhodes, R. A. W., & Marsh, D. (1992b). New Directions in the Study of Policy Networks. *European Journal of Political Research*, 21(1-2), 181-205.
- Richardson, J. J., & Jordan, A. G. (1979). *Governing Under Pressure: The Policy Process in a Post-Parliamentary Democracy*. Oxford: Martin Robertson.
- Rijksoverheid. *Bedrijventerreinen*. Retrieved from: <http://www.rijksoverheid.nl/onderwerpen/bedrijventerreinen>.
- Rijksoverheid. *Feiten over Bedrijventerreinen*. Retrieved from: <http://www.rijksoverheid.nl/onderwerpen/bedrijventerreinen/feiten-over-bedrijventerreinen>.
- Rijksoverheid. *Rijksbeleid Bedrijventerreinen*. Retrieved from: <http://www.rijksoverheid.nl/onderwerpen/bedrijventerreinen/rijksbeleid-bedrijventerreinen>
- Saçlı, F. (2004a). *Office Parks, Accessibility and Location Policy: An Analysis of the Dutch Case*. Land Use Change Report (IR-04-20). Laxenburg: IIASA.
- Saçlı, F. (2004b). *Sustainable Business Parks: An Analysis of Two Cases from the Netherlands*, Paper presented at the World Conference for Transport Research Society, July 4-8, 2004, Istanbul, Turkey.
- Saetren, H. (2005). Facts and Myths about Research on Public Policy Implementation: Out-of-fashion, Allegedly Dead, But Still Very Much Alive and Relevant. *The Policy Studies Journal*, 33(4), 559-582.
- Sargant, Elizabeth. (2004). *Fibroned vs Bezorgde Bewoners: Aspecten van het Besluitvormingsproces rond de Milieuverlening*, Wageningen: Master Thesis Wageningen University.
- SenterNovem (2005). *Afval of Biomassa? Een Juridische Onderbouwing*. Den Haag, Utrecht: SenterNovem.
- Saward, M. (1992). The Civil Nuclear Network in Britain. In D. Marsh, & R. Rhodes (eds), *Policy Networks in British Government* (pp. 75-99). Oxford: Clarendon Press.
- Schneider, V. (1992). The Structure of Policy Networks. *European Journal of Political Research*, 21(1-2), 109-129.

- Schubert, K. & Jordan, G. (1992). Introduction. *European Journal of Political Research*, 21(1-2), 1-5.
- Smith, M. J. (1993). *Pressure, Power & Policy. State Autonomy and Policy Networks in Britain and the United States*. Hemel Hempstead: Harvester Wheatsheaf.
- Sørensen, E. (2005). Metagovernance: The Changing Role of Politicians in Processes of Democratic Governance. *The American Review of Public Administration*, 36(1), 98-114.
- Sørensen, E., & Torfing, J. (2005). Network Governance and Post-liberal Democracy. *Administrative Theory & Praxis*, 27(2), 197-237.
- Sørensen, E., & Torfing, J. (2007). Governance Network Research: Towards a Second Generation. In E. Sørensen, & J. Torfing (eds), *Theories of Democratic Network Governance* (pp. 1-21). New York: Palgrave Macmillan.
- Sørensen, E., & Torfing, J. (2009). Making Governance Networks Effective and Democratic through Metagovernance. *Public Administration*, 87(2), 234-258.
- StAB. (2002). Verslag Ex Artikel 8:47 Algemene Wet Bestuursrecht. 22 juli 2002. Met kenmerk StAB/35635/H, in opdracht van De Afdeling Bestuursrechtspraak van de Raad van State met kenmerk 200106102/1/M1.
- StAB. (2004). Verslag Ex Artikel 8:47 Algemene Wet Bestuursrecht. 30 juni 2004. Met kenmerk StAB/36536/H, in opdracht van De Afdeling bestuursrechtspraak van de Raad van State met kenmerk 200402102/1/M1.
- StAB. (2009). Verslag Ex Artikel 8:47 Algemene Wet Bestuursrecht. 1 oktober 2009. Met kenmerk StAB/38487/H, in opdracht van De Afdeling Bestuursrechtspraak van de Raad van State met kenmerk 200904695/1/M1.
- Stones, R. (1992). Labour and International Finance 1964-1967. In D. Marsh, & R. Rhodes (eds), *Policy Networks in British Government* (pp. 200-225). Oxford: Clarendon Press.
- Taskforce (Her)ontwikkeling Bedrijventerreinen. (2008). *Kansen voor Kwaliteit: Een Ontwikkelingsstrategie voor Bedrijventerreinen*. Advies van de Taskforce (Her)ontwikkeling Bedrijventerreinen. Retrieved from: <http://www.rijksoverheid.nl/documenten-en-publicaties/kamerstukken/2008/10/09/kansen-voor-kwaliteit.html>
- Teisman, G., van Buuren, A., & Gerrits, L. (eds) (2009). *Managing Complex Governance Systems: Dynamics, Self-organization and Coevolution in Public Investments*. New York and London: Routledge.
- Termeer, C. J. A. M., & Koppenjan, J. F. M. (1997). Managing Perceptions in Networks. In W. J. M. Kickert, E. H. Klijn & J. F. M. Koppenjan (eds), *Managing Complex Networks: Strategies for the Public Sector* (pp. 79-97). London: Sage.

- Toke, D and Marsh, D. (2003) Policy Networks and the GM Crops Issue: Assessing the Utility of a Dialectical Model of Policy Networks. *Public Administration*, 81(2), 229-251.
- Torring, J. (2007). A Comparative and Multi-level Analysis of Governance Networks: a Pilot Study of Employment Policy. In P. Bogason, & M. Zølner (eds), *Methods in Democratic Network Governance* (pp. 21-40). New York: Palgrave Macmillan.
- Tweede Kamer. (2008). Kabinetsreactie Taskforce (Her)ontwikkeling Bedrijventerreinen. 26 November 2008. Retrieved from: <http://www.rijksoverheid.nl/documenten-en-publicaties/kamerstukken/2008/11/26/kabinetsreactie-taskforce-her-ontwikkeling-bedrijventerreinen.html>
- Van Bueren, E. M., Klijn, E. H., & Koppenjan, J. F. M. (2003). Dealing with Wicked Problems in Networks: Analyzing an Environmental Debate from a Network Perspective. *Journal of Public Administration Research and Theory*, 13(2), 193-212.
- Van Waarden, F. (1992). Dimensions and types of policy networks. *European Journal of Political Research*, 21(1-2), 29-52.
- Watts, M. (2009). Collaborative Implementation Network Structures: Cultural Tourism Implementation in an English Seaside Context. *Systemic Practice and Action Research*, 22(4), 293-311.
- World Commission on Environment and Development. (1987). *Our Common Future*. Cambridge: Cambridge University Press.
- Yin, R. (1989). *Case Study Research*. Newbury Park: Sage.

Newspaper articles

Apeldoornse Courant/later 'Stentor'. 28 August 2002 newspaper article 'Rapport is goed voor Fibroned' by Henk van het Veen.

Apeldoornse Courant/later 'Stentor'. 10 September 2002 newspaper article 'Milieubureau uit kritiek op rapport Fibroned' by one of the journalists.

Fibroned, ingezonden brief de Stentor. Retrieved from: http://apeldoorn.sp.nl/bericht/40950/100203-fibroned_ingezonden_brief_de_stentor.html.

Nieuwsbank (Interactief Nederlands Persbureau). 5 December 2002. Apeldoorn wint EPL-Prijs 2002 met een EPL van 9,6. Retrieved from: <http://www.nieuwsbank.nl/inp/2002/12/05/R112.htm>

NRC Handelsblad. Newspaper article: 'kleine boer kan beter niet biologisch werken' at [http://vorige.nrc.nl/wetenschap/article2539178.ece/Kleine boer kan beter niet biologisch werken](http://vorige.nrc.nl/wetenschap/article2539178.ece/Kleine_boer_kan_beter_niet_biologisch_werken).

Stentor/former 'Apeldoornse Courant' 22 December 2003. 'Regels Fibroned Soepeler'.

Stentor/former 'Apeldoornse Courant' 26 January 2009. 'Fibroned Doet Nieuwe Aanvraag voor Vergunning' by Gep Leeftang.

Stentor/former 'Apeldoornse Courant'. 12 January 2010. 'Opnieuw Jaar Vertraging Fibroned' by Gep Leeftang

Websites

Informatiecentrum Ecofactorij. <http://www.informatiecentrumecofactorij.nl>

Bezorgde Burgers Apeldoorn. <http://www.bezorgdeburgers.nl>

Commissie MER (Milieu Effect Rapportage). <http://www.commissiemer.nl>

Fibronot. <http://www.fibronot.nl>

Gelderse Milieu Federatie. <http://www.geldersemilieufederatie.nl/>

StAB (Stichting Advisering Bestuursrechtspraak voor Milieu en Ruimtelijke Ordening). <http://www.stab.nl>

Stichting Natuur en Milieu. <http://www2.natuurenmilieu.nl/home/>

Stichting Wakker Dier. <http://www.wakkerdier.nl/>

List of interviewees

- Aalderink, Henk. The Provincial Executive Member, Province of Gelderland, currently Mayor of Bronckhorst. Interview. October 2010.
- Achterkamp, Teun. Project Manager Fibroned, Province of Gelderland, Arnhem. Interview. October 2010.
- Bouwhuis, Fons. Manager, Park Management Cooperation Ecofactorij Apeldoorn. Interview. April 2010.
- Coenrady, Cor. Former-employee of the Province of Gelderland. Technical expert on environmental permits, currently, advisor at StAB, Elst. Interview September 2010 and Correspondence during September-October 2010.
- De Wit, Jan. Energy specialist, TNO, Apeldoorn. Interview. April 2010.
- Grolleman, Dick. Director Grolleman Coldstore BV, Apeldoorn. Interview. April 2005.
- Harbers, Jan and Harbers, Jan-Reint. Harbers Volvo Trucks, Ecofactorij Apeldoorn. Interview. April 2010.
- Knops, Pol. Project manager Fibroned, Apeldoorn. 3 interviews. April and October 2010 and Correspondence during April 2010, November 2010, January 2011.
- Kok, Albert. Energy specialist. Municipality of Apeldoorn. 2 interviews. April 2010.
- Kuijpers, Edwin and Pasma, Joke. Concerned Citizens of Apeldoorn. Interview. April 2010.
- Sargent, Elisabeth. PhD Researcher, Wageningen University. Ede-Wageningen. Interview. June 2010.
- Scherders, Peter. Manager, Ecofactorij Project, Department of Project Development, Municipality of Apeldoorn. 3 interviews. March 2005, April 2010, October 2010. Correspondence during 2005-2006, and 2010-2011.
- Ten Doeschate, Bernard. Reesink BV, Ecofactorij Apeldoorn. Interview. February 2006.
- Van de Scheur, Henk. Henk van de Scheur BV, Ecofactorij Apeldoorn. Interview. April 2010.
- Van Leeuwen, Maarten. Expert, SenterNovem, The Hague. Interview. November 2005.
- Van Orden, Aad. Representative of the Municipality of Apeldoorn at the Park Management Cooperation Ecofactorij. Interview April 2010.

- Visschers, Maarten. Environmental Specialist, Gelderse Milieu Federatie, Arnhem. Interview. September 2010.
- Visser, Johan. The former Ministry of Economic Affairs, The Hague. Interview. February 2006.
- Vollenbroek, Johan. Independent environmental consultant, MOB, Nijmegen. Interview. June 2010. Correspondence. July 2010.
- Wijnsma, Henk. Head of Economic Affairs, Municipality of Apeldoorn. Interview. March 2005.

Summary

The view that 'policy networks affect policy outcomes' has been widely acknowledged in public policy research over the last two decades. However, even if we accept this position in broad terms, we need to explain how networks affect policy. In fact, we need to address a series of questions:

How should we conceptualise and define policy networks? Should we study networks by prioritising either the actions of the actors within the network or the structure of the network? Or, should we focus on the way in which networks, as structures, and the actors within the network, interact to affect outcomes?

These questions automatically lead to other relevant questions, such as:

Should we examine policy networks independent of their broader context? If not, what are the interrelationships between policy networks, policy outcomes and that broader context?

Do networks just affect outcomes, or is there, rather, an interactive relationship between policy network and the policy outcome?

Highlighting these questions suggests that we may take the dialectical model of policy networks (Marsh 1998; Marsh and Smith 2000) seriously if the aim is to understand the interdependence between policy networks and policy outcomes.

This dissertation aims to understand the interdependence between policy networks and policy outcomes in the context of Dutch business parks. The planning and development of business parks has been a crucial element of the Dutch spatial-economic policy as there are more than 3500 of them, providing one third of the employment in the country. The concept of sustainability can be incorporated in the spatial and infrastructure planning of a business park, as well as in the business processes of the companies therein. Business parks with their dynamic policy context provide a laboratory for the empirical application of policy networks approach as a form of interest intermediation: in particular, the dialectical model of policy networks.

An overview of the policy networks literature indicates two major schools: the Governance school, mainly originating from the continental Europe and the Interest Intermediation school, based on the British literature. Within the British Interest Intermediation tradition, I, particularly, took the dialectical model of policy networks. The dialectical model of the policy networks starts with the proposition that policy networks affect policy outcomes. In order to understand how this influence takes place, we need to understand three sets of dialectical relationships: these are between network structure and agency; between network

and context, and between network and policy outcome. These interwoven relationships suggest explanations as to how policy outcomes come into existence through the lens of network structure and network actors, as well as through the broader context as filtered by the policy network. Moreover, the interaction is seen as iterative as policy outcomes may exert influence in return on the network structure, agency and the broader context. If public policy needs to identify patterns in how certain policy outcomes occur in relation to the policy networks, the dialectical model provides an overarching framework, with its four key variables. However, the model is not free from problems. Based on the model and its empirical application, I made a four-fold critique, which fed into a revised version of the model. The revised model, as depicted by me (i) spells out the stages of networking; (ii) elaborates on the policy outcomes; (iii) discusses the meaning of network structure and agency; and, finally, (iv) presents a diagrammatic scheme of the revised model and its four-step operationalisation. The revised dialectical model of policy networks assesses the interrelationship between (i) networking stages and network shape; (ii) between policy outcomes and networking stages; and between policy outcomes and network shape; and analyses the dialectical relationships (iii) underlying each policy outcome; and (iv) across all policy outcomes.

The revised dialectical model is applied to the Ecofactorij Business Park, as the single case study of this dissertation. The Ecofactorij case is identified as a unique attempt of a Dutch municipality (the Municipality of Apeldoorn) to develop a model sustainable business park. Networking process went through network formation, expansion, reconstitution and stabilisation stages. Policy outcomes such as the policy objective (developing a sustainable business park) and policy instruments (the Zoning Plan, based on the Dutch Spatial Planning Act, and the Quality Plan of the Municipality of Apeldoorn, linked to a land pricing policy) guide the process which lead to a series of other policy outcomes related to the land use, energy and transport policy fields.

In addition, an embedded case study was conducted by putting a magnifier on a single and specific process within the Ecofactorij. This concerned the decision making related to the investment proposal of Fibroned, a facility which planned to produce sustainable energy by incinerating poultry manure in the Ecofactorij. Networking process within the Fibroned case went through network formation, expansion, reconstitution and stagnation stages. The policy objective was defined by the policy community as producing sustainable energy in the Ecofactorij Business Park by incinerating poultry manure. The policy instruments used for this objective were the environmental impact assessment report and the environmental permit, in accordance with the Dutch Environmental Management Act. Along with the use of these instruments, which allowed the participation of various actors, who formed an issue network, came a turbulent process involving the appeal against the environmental permit, public mistrust regarding the emission levels, and opposition to the industrial poultry farming.

The findings of this dissertation based on the research questions are as follows:

1. A triangular relationship is identified between the stages of networking, network shape and policy outcomes. These relationships read as follows:
 - a. *Identifying the networking stages correlates with the changing network shape*: Both cases had a policy community in the network formation stage. Actors joined at the periphery of the network during the expansion and reconstitution stages of networking; while in the second reconstitution and stabilisation stages, policy network shifted back to the policy community shape (in the Ecofactorij case), and policy community co-existed with an issue network in the network expansion stage and onwards (in the Fibroned case).
 - b. *Linking policy outcomes and the networking stages*: In both cases, major policy instruments guided the process of networking. This led to a variation in the thematic focus of the policy outcomes. The making and revision of the Zoning Plan was influential in the network formation, expansion, and the first reconstitution stages of the Ecofactorij. This meant that policy outcomes related to the spatial-economic policy principles were produced in these stages. The implementation of the sustainability conditions in the Quality Plan was evident during the second network reconstitution and stabilisation stages. This corresponded thematically to the energy and transport-related policy outcomes. Concerning the Fibroned case, a set of policy outcomes, related to the environmental permit process came about during all networking stages.
 - c. *Linking policy outcomes and the network shape*: A correlation was found between: policy community and policy stability (both cases); between policy network identified with a looser structure and policy change (the Ecofactorij case); and between issue network and policy instability (the poultry manure incineration case).
2. Each policy outcome can be explained with its own underlying dialectical relationships. That is, mutual relationships are identified between four key variables of the model. These relationships do not follow a strictly uniform sequential order. However, some recurring patterns are observed. These patterns are:
 - a. The relationship between network structure and policy outcomes is indirect. Mutual influence between network structure and policy outcomes goes via agency, who interprets the broader context. Agency with its interests, resources and strategic interaction constitutes and reshapes the network structure.
 - b. The broader context sets the playing field.
 - c. The ideational context plays a crucial role in controversial cases such as sustainable energy production by poultry manure incineration.

3. The case studies confirmed Daugbjerg (1998)'s proposition, which links policy communities with low-cost environmental policies, and issue networks with high-cost environmental policies.

The findings of this research led to the following recommendations for the policy makers:

1. Sustainability needs to be ingrained in the business parks temporally (from the planning to the management phase) and thematically (not only the spatial planning of the business parks but also the business processes taking place in them).
2. Careful assignment of the types of sectors and industries to the business parks from the planning phase onwards would enable a holistic approach in sustainability, and help minimise the need for eventual adaptations.

The key features of the revised dialectical model of policy networks are as follows:

1. The revised dialectical model is based on the dialectical relationships between the four major variables (i.e. network agency, network structure, the broader context; and policy outcome) in understanding the interdependence between policy networks and policy outcomes. These relationships are assumed to be mutual relationships. Dependent and independent variables are not distinguished as the interrelationships are iterative.
2. The revised model specifies all the variables and places the policy outcomes at the centre of the model. *Network agency* is identified with three components: interests, resources, and strategic interaction. *Network structure* is equated with the network shape, as defined by the membership and integration within the network. *Broader context* involves the macroeconomic and policy context and specific contextual factors related to the issue of concern. *Policy outcomes* can be in the form of policy objectives and policy instruments as well as (interim/intermediate) policy decisions taken and policies modified in the course of realising the policy objective and implementing the policy instrument.
3. In the empirical application of the model, special attention is paid to the stages of networking, network shape, and policy outcomes. Dialectical relationships are examined per identified policy outcome and across all policy outcomes.

The limitations of the revised dialectical model are related to its empirical application. The model helps us to put the components of a complex phenomenon in a logical order. However, in its empirical application, explaining

the mutual relationships between its variables by separating them into layers is not always as easy, since the relationships are interwoven.

Recommendations for further research involve a more detailed elaboration of some individual concepts such as agency and ideational context. Other possible directions for research could be engaged in:

1. establishing causal links between network types and policy outcomes;
2. conducting comparative case studies between old and new business parks;
3. following the new government policy on the commercialisation/ professionalisation of the business parks; and
4. testing the revised dialectical model on other controversial issues similar to the poultry manure incineration case in order to explore in more depth the role of the trust issue.

Samenvatting

Er is de afgelopen decennia brede erkenning gekomen voor het inzicht dat 'beleidsnetwerken invloed hebben op beleidsresultaten'. We moeten echter ook kunnen verklaren hoe netwerken beleid beïnvloeden. We moeten in feite een aantal vragen beantwoorden:

Hoe moeten we beleidsnetwerken conceptualiseren en definiëren? Moeten we netwerken bestuderen door eerst te kijken naar de handelingen van actoren in het netwerk of naar de structuur van het netwerk? Of moeten we juist kijken naar de interacties tussen netwerken, als structuren, en de actoren in die netwerken?

Deze vragen leiden tot andere relevante vragen zoals:

Moeten we beleidsnetwerken onderzoeken onafhankelijk van hun context? Zo niet, welke relaties zijn er dan tussen beleidsnetwerken, beleidsuitkomsten en die context?

Als deze vragen centraal staan, en we de onderlinge afhankelijkheid tussen beleidsnetwerken en beleidsuitkomsten willen begrijpen dan ligt het voor de hand om het dialectische model van beleidsnetwerken in het onderzoek te betrekken.

Dit proefschrift heeft als doel de onderlinge afhankelijkheid, of interdependentie, te begrijpen tussen beleidsnetwerken en beleidsuitkomsten in de context van bedrijventerreinen in Nederland. De planning en ontwikkeling van bedrijventerreinen is al lang een belangrijk onderdeel van het Nederlandse ruimtelijk-economisch beleid. Er zijn er immers meer dan 3500, en ze leveren een derde van de werkgelegenheid in het land. Duurzaamheid kan een onderdeel zijn van de voorbereiding van de ruimtelijke inrichting en de infrastructuur voor een bedrijventerrein, maar ook van de planning van de bedrijfsprocessen bij de bedrijven die zich er vestigen. Bedrijventerreinen zijn, met hun dynamische beleidscontext, een laboratorium voor de toepassing van de beleidsnetwerkenbenadering als een vorm van 'interest intermediation': in het bijzonder het dialectische model.

Het overzicht van de literatuur over beleidsnetwerken laat zien dat er twee belangrijke scholen zijn: de Governance school, die vooral uit continentaal Europa komt, en de Interest Intermediation school, die vooral in de Britse literatuur voorkomt. Binnen the Britse traditie van Interest Intermediation heb ik in het bijzonder gekeken naar het dialectische model van beleidsnetwerken. Het is gebouwd op de stelling dat beleidsnetwerken invloed hebben op beleidsuitkomsten. Om te begrijpen hoe deze invloed uitgeoefend wordt, moeten we ons richten op drie dialectische relaties: tussen (i) netwerkstructuur en

agency, (ii) netwerk en context en (iii) netwerk en beleidsuitkomsten. Deze onderling verweven relaties suggereren verklaringen over het tot stand komen van beleidsuitkomsten door de lens van netwerkstructuur en actoren in het netwerk, evenals door de bredere context die door het beleidsnetwerk gefilterd wordt. Deze interactie wordt gezien als iteratief omdat beleidsuitkomsten invloed kunnen hebben op de structuur van het netwerk, agency in het netwerk en de bredere context. Het dialectische model, met zijn vier sleutelvariabelen, biedt een goed analytisch raamwerk, maar het is niet zonder problemen. Op basis van het model en zijn toepassing ben ik tot een viervoudige kritiek gekomen wat leidde tot een herziene versie van het model. De belangrijkste kenmerken daarvan zijn dat (i) het de fasen in het proces van netwerkvorming benoemt, (ii) de beleidsuitkomsten uitwerkt, (iii) de betekenis van netwerkstructuur en agency bespreekt en (iv) een schema van het herziene model met zijn operationalisering in vier stappen presenteert. Het ontwerp voor het empirisch onderzoek evalueert de interrelaties tussen (i) fasen in netwerkvorming en vorm van het netwerk, (ii) fasen in netwerkvorming en beleidsuitkomsten, (iii) en dat voor elke beleidsuitkomst afzonderlijk, (iv) en bezien over alle beleidsuitkomsten.

Het herziene dialectische model is toegepast op een *single case study*, namelijk het bedrijventerrein Ecofactorij in Apeldoorn, een unieke poging van een Nederlandse gemeente om een model duurzaam bedrijventerrein te ontwikkelen. Het proces van netwerken kende fasen van vorming, uitbreiding, hervestiging en stabilisering. De beleidsuitkomsten richten zich op een majeur beleidsdoel (het ontwikkelen van een duurzaam bedrijventerrein) en twee beleidsinstrumenten: het Bestemmingsplan, conform de Nederlandse Wet ruimtelijke ordening, en het Kwaliteitsplan van de Gemeente Apeldoorn. In deze context zijn ook gerelateerde beleidsuitkomsten onderzocht op het gebied van ruimtelijke ordenings-, energie- en verkeers- en vervoersbeleid.

Verder is een *embedded case study* uitgevoerd waarin het investeringsvoorstel van Fibroned centraal stond. Het gaat om een bedrijf dat in Ecofactorij duurzame energie wilde gaan produceren uit pluimveemest. Het netwerkproces in deze casus doorliep fasen van formatie, uitbreiding, hervestiging en stagnatie. Parallel aan deze instrumenten, die deelname van meerdere actoren in de vorm van een issue-netwerk mogelijk maakte ontstond een turbulent proces vanwege een algemeen wantrouwen ten aanzien van de emissieniveaus die zouden optreden, het verlenen van de milieuvergunning waartegen inmiddels beroep was aangetekend, en in algemene zin tegen het fenomeen industriële pluimveehouderij.

De bevindingen van deze dissertatie zijn als volgt:

1. Een driehoeksrelatie is geïdentificeerd tussen de fasen van netwerkontwikkeling, de vorm van het netwerk en beleidsuitkomsten. Deze relatie ziet er als volgt uit:

- a. *De fasen van netwerkontwikkeling vertonen een correlatie met de vorm van het netwerk:* beide casus kenden een beleidscommunity in de fase van netwerk formatie. In de casus Ecofactorij kwamen er in de periferie van het netwerk actoren bij in de fasen van expansie en hervestiging; terwijl in de tweede fase van hervestiging en stabilisering de beleidsnetwerken weer de vorm van een beleidscommunity aannamen. In de casus Fibroned bestond een beleidsnetwerk naast een issue netwerk in de fasen van netwerkexpansie en verder.
 - b. *Beleidsuitkomsten gerelateerd aan fasen van netwerkontwikkeling:* In beide casus stuurden belangrijke beleidsinstrumenten het netwerkproces. Dit leidde tot een variatie in de thematische focus van de beleidsuitkomsten. Het opstellen en aanpassen van het Bestemmingsplan had invloed op de vorming van het netwerk, de expansie en de eerste fase van hervestiging van Ecofactorij. Dit betekende dat beleidsuitkomsten gerelateerd aan ruimtelijk-economische beleidsprincipes in deze fase tot stand kwamen. Het implementeren van de voorwaarden voor duurzaamheid in het Kwaliteitsplan werd zichtbaar in de tweede fase van hervestiging van het netwerk en in de fase van stabilisering. Dit spoorde thematisch met de energie en vervoersgerelateerde beleidsuitkomsten. In de casus Fibroned kwam een set beleidsuitkomsten tot stand, gerelateerd aan het proces van vergunningverlening, in alle fasen.
 - c. *Beleidsuitkomsten gerelateerd aan de vorm van het netwerk:* Een correlatie werd gevonden tussen beleidscommunity en beleidsstabiliteit (beide casus), tussen beleidsnetwerk met een lossere structuur en beleidsverandering (casus Ecofactorij), en tussen issue netwerk en instabiliteit van beleid (casus Fibroned).
2. Elke beleidsuitkomst kan verklaard worden met de eigen, onderliggende dialectische relaties, waarin bepaalde patronen zichtbaar werden:
 - a. De relatie tussen netwerkstructuur en beleidsuitkomst is indirect, de wederzijdse beïnvloeding verloopt via agency, van waaruit de bredere context geïnterpreteerd wordt. Agency, met zijn belangen, middelen en strategische interactie vestigt en vormt de netwerkstructuur.
 - b. De bredere context bepaalt het speelveld.
 - c. De ideationele context speelt een cruciale rol in controversiële casus, zoals de duurzame energieproductie door verbranding van pluimveemest bij Fibroned.
 3. Bij het testen van de stelling van Daugbjerg (1998), die er neerkomt dat het bestaan van beleidscommunities leidt tot (milieu)beleidsuitkomsten met lage kosten, terwijl het bestaan van issuenetwerken leidt tot (milieu)beleidsuitkomsten met hoge kosten, al met al kan gesteld worden dat dit empirisch onderzoek de stelling van Daugbjerg bevestigt.

De bevindingen van dit onderzoek leiden tot de volgende beleidsaanbevelingen:

1. Duurzaamheid moet een integraal bestanddeel zijn in de planning van bedrijventerreinen. Dat geldt zowel in de tijd, van de planningfase tot en met de beheersfase. Het geldt ook thematisch: duurzaamheid is niet alleen een kwestie van ruimtelijk beleid maar ook van de bedrijfsprocessen die er plaats vinden.
2. De tijdige en zorgvuldige aanwijzing van sectoren en typen bedrijven die zich op bedrijventerreinen kunnen vestigen, vanaf de planningsfase, maakt een holistische benadering van duurzaamheid mogelijk, en voorkomt de noodzaak van eventuele latere aanpassingen in die aanwijzing.

De kenmerken van het herziene dialectische model van beleidsnetwerken zijn:

1. Het herziene dialectische model is gebaseerd op de dialectische relaties tussen de vier sleutelvariabelen (i.e. agency van het netwerk, structuur van het netwerk, bredere context en beleidsuitkomst) in het begrijpen van de interdependentie tussen beleidsnetwerken en beleidsuitkomsten. Deze relaties worden verondersteld wederzijds te zijn. Er is geen onderscheid tussen afhankelijke en onafhankelijke variabelen aangezien de wederzijdse relatie iteratief is.
2. Het herziene model benoemt alle variabelen, en stelt de beleidsuitkomsten centraal. *Netwerk agency* kent drie belangrijke onderdelen: belangen, middelen en strategisch handelen. *Netwerkstructuur* wordt gelijkgesteld aan de vorm van het netwerk, zoals gedefinieerd door lidmaatschap van en integratie in het netwerk. De *bredere context* betreft de macro-economische en beleidscontext en specifieke contextuele factoren van het beleidsissue. *Beleidsuitkomsten* kunnen de vorm aannemen van beleidsdoelen en beleidsinstrumenten, maar ook van (tussen)beleidsbeslissingen en beleidsaanpassingen gericht op het realiseren van beleidsdoelen.
3. Bij de empirische toepassing van het model is bijzondere aandacht besteed aan de fasen binnen het netwerkproces, de vorm van het netwerk en de beleidsuitkomsten. De dialectische relaties zijn onderzocht per afzonderlijke beleidsuitkomst en over alle beleidsuitkomsten heen.

De beperkingen van het herziene dialectische model komen bij empirische toepassing aan het licht. Het model helpt ons de componenten van een complex fenomeen in een logische orde te krijgen. Het verklaren van de wederzijdse causale relaties tussen variabelen door ze te scheiden in lagen is niet altijd eenvoudig omdat vanwege de verwevenheid van die relaties.

Aanbevelingen voor verder onderzoek betreffen onder andere een meer gedetailleerde uitwerking van enkele afzonderlijke concepten, zoals agency en ideationele context. Andere mogelijke richtingen voor toekomstig onderzoek zijn:

1. het vaststellen van oorzakelijke verbanden tussen verschillende typen netwerken en beleidsuitkomsten;
2. vergelijkend onderzoek naar oude en nieuwe bedrijventerreinen;
3. het volgen van nieuw overheidsbeleid inzake de commercialisering/professionalisering van bedrijventerreinen; en het testen van het herziene dialectische model op andere controversiële onderwerpen, vergelijkbaar met de casus van verbranding van pluimveemest (Fibroned), met als doel om de rol van vertrouwen in netwerken te verkennen.

Acknowledgments

Many people contributed to the completion of this dissertation.

First and foremost, I am grateful to my promoters, Harry Geerlings and Wim Hafkamp. Harry, I am indebted to you that by the PhD and consultancy job you offered me, I entered in the transport policy research, which has always fascinated me. Even though the circumstances shifted the focus of this dissertation quite away from transport policy, I have continued working in this field professionally with pleasure. I appreciate your support and availability throughout all these years, for a work-related talk or a chat; and your personal interest. Apart from that, you were also helpful for many practical things which were needed by someone living abroad like myself. Thank you! Wim, in the first few years of my PhD research, we did not manage to meet but from the moment we could, I was always inspired by your energy. Thank you for the stimulating talks, which carried this research always a step further. On the practical side, thanks also for sharing your office with me and translating the summary of my dissertation into Dutch.

I am indebted to Dave Marsh, Jurian Edelenbos and Frank Boons, the doctoral committee members, for reading my manuscript and providing me with invaluable comments. My thanks also go to Lucas Reijnders, Peter Scherders, Pol Knops and Cor Coenrady, who read earlier drafts of parts of this dissertation.

I should like to express my gratitude to Dave Marsh whose work on the policy networks inspired me very much. Dave, you were so kind to host me at the Department of Political Science of the University of Birmingham, in summer 2006, so that I could work with you on the dialectical model of policy networks. I appreciate it very much that you continued supporting me from Australia, where you currently live; and that you accepted to be a part of my doctoral committee.

I would like to thank Frank Boons. Frank, thank you not only for your interest in my research and making time to read and comment on my texts but also for the talks we had which have always been insightful for me. I also recall our literature-related talks during the ESM times, which I enjoyed very much.

Many thanks go to Harrij van Velthuisen and Land Use Change group at the International Institute of Applied Systems Analysis (IIASA), Austria, where a part of the earlier research for this dissertation was conducted. My gratitude is also to The Netherlands Organisation for Scientific Research (NWO), *Erasmus Trustfonds* and the Faculty of Social Sciences for their financial support for my research visits to IIASA and Birmingham University.

Many people contributed to my case studies by providing me with valuable information and written documents during and after interviews. In particular, Peter Scherders, the Project Manager of the Ecofactorij Business Park at the Municipality of Apeldoorn, has patiently replied all my queries for many years. Pol Knops and Cor Coenrady supported me with technical and legal briefings and an incredible amount of documents so that I could get into the Fibroned case. Edwin Kuijpers, from Concerned Citizens of Apeldoorn, compiled an archive of newspaper articles for my research regarding the Fibroned case. Henk Aalderink treated me with the famous hospitality of the Achterhoek region in his busy schedule as the Mayor of Bronckhorst; and Johan Vollenbroek provided me with lots of insights about the unwritten/untold part of the story. I thank you all as well as my other interviewees, Teun Achterkamp, Fons Bouwhuis, Jan de Wit, Jan Harbers, Jan-Reint Harbers, Albert Kok, Joke Pasman, Elisabeth Sargent, Bernard ten Doeschate, Henk van de Scheur, Maarten van Leeuwen, Aad van Orden, Maarten Visschers, Johan Visser and Henk Wijnsma.

In the earlier phases of this dissertation, I was a member of the Erasmus Centre for Sustainability and Management (ESM). I would like to thank all my colleagues from ESM for contributing to a nice, multidisciplinary research environment, particularly to Jacko van Ast, Céline Louche, Judith Klostermann, Leo Baas, Gerard Zwetsloot, and Don Huisingh. I thank Ingvild Ariëns and Nigel Roome for their warm friendship.

Following its merging with ESM, Department of Public Administration hosted me in completing my PhD research. I felt very welcome back on the 7th floor with the nice companionship of Jacko van Ast and Jan Jaap Bouma, since ESM; Steven van de Walle, Sebastian Jilke, Joris van der Voet, Ruth Prins and Mark van Ostaijen as well as Vincent Homburg and Nanny Bressers from the 8th floor. I would like to especially thank Mansee Bal, my office-mate. Mansee, with you, the office turned into a kind of extension of home, where we could work many long hours, but also talk, share things of life and laugh. Thank you for your warm, embracing friendship.

I would like to express my special thanks to Ziya Aliyev. Ziya, it has been only a short while ago that you came to the Department but from day one, you have already been a friend for me. You helped me out with so many things, which were urgently needed in the completion of this thesis including library matters, references and layout. You were always available; even calling me from Azerbaijan to ask how things were going. *Yürekten teşekkürler!*

I would like to thank Peter Hupe, for the very informative talk about implementation studies; and Wouter Spekkink for the useful and pleasant meeting in which we talked about the Dutch business parks policy; and for sharing with me the database on Dutch business parks. Thanks also go to Lasse Gerrits for the nice chats about the books published in our department.

Yneke Steegstra, Karin Milovanovic and Lalitha Rambhadjan provide a warm secretariat at the Department. My thanks go to Yneke, for arranging the formalities concerning the defence. And, Karin, I am grateful to you that you made time and devoted energy to come up with some nice cover page ideas for this book, which helped us to orientate towards the current design.

I would like to thank Patricia Ellman: Mrs. Ellman, your language editing of this dissertation is invaluable; apart from that, I highly appreciate your kindness, involvement and punctuality in your work, with a personal touch.

My dear friends in the Netherlands who have been so close to me for several years while my family is far away: Aliza Ovadia, *since ROC Eindhoven*; Ellen Kuilema, *beyond a neighbour*; Liesbeth Augustijn; *how can I forget the last day of the old Lantaren Venster!*, my paranympths, Marjolein Kooistra and Paolo Perego; and from more recent times, Pieta Kluytenaar and Kees Verhaar. And, İzgi Güngör, my dear friend in Turkey, yet so near to me. Thank you all for your love and care! Marjolein, I find our sharing of deep things and fine details of life very special as well as our talks on multiculturalism and identity! And, Paolo, *Wat een mooi mens ben je!* Your genuine being, sharing and support have been indispensable to the completion of this dissertation. Thank you!

I could not have done without the endless love and support of my family. My mother, Ünzile Yıldız Saçlı, and my sisters Selma Şeker and Zekiye Saçlı, the female power, have always been there for me with their love. I thank my brothers Ali Saçlı, Cevdet Saçlı and Selahattin Saçlı and my brother-in-law Ulvi Şeker, for their love and support. Special thanks to my brother-in-law who hosted me at Gazi University, Ankara, in the summer 2010 where I could work on this dissertation. My thanks go to my nephew Demirhan for his creative design of the cover page and graphics of this book. Finally, I would like to thank Karel. Although we both have Apeldoorn in common, life brought our paths together in Rotterdam. Thank you so much for your love and care during the last year of writing this dissertation; your support in keeping things running, for which I simply did not have time; and your meticulous work on the references and layout of this book, that I am grateful for.

This book is dedicated to my parents: Thank you for letting me go to follow my dreams!

Curriculum Vitae

Fatma Saçlı studied Political Science and Public Administration (BSc) and Urban Policy Planning and Local Government (MSc) at the Middle East Technical University, in Ankara, Turkey. Her interest in sustainability culminated in a Master's thesis in 1999 on urban environmental management and Local Agenda 21 implementation in Turkey. Upon receiving research grants from the Finnish and Dutch government, she conducted research on urban sustainability and Local Agenda 21 implementation in Finland (Turku University) and in the Netherlands (Erasmus University Rotterdam). Subsequently, she started her PhD research at the Erasmus Centre for Sustainability and Management (ESM) in Rotterdam, and, in parallel, worked as a consultant for an EU project which aimed to develop sustainable transport strategies for the European science and technology parks. In 2003 she participated in the Young Scientists Summer Programme at the International Institute of Applied Systems Analysis (IIASA) in Austria, where she published a study on the location policy and accessibility of office parks in the Netherlands. As a visiting scholar at the Department of Political Science of Birmingham University, in the UK, she worked in 2006 with Prof. David Marsh on the dialectical model of policy networks.

Besides her PhD research, Fatma worked as a transport and mobility consultant at NEA Transport Research and Training, in the Netherlands, where she was also in charge of NEA Transport and Logistics Inc. based in Ankara, Turkey. She, then, worked as programme manager for research at the Netherlands Institute for City Innovation Studies (NICIS), responsible for developing knowledge and research agendas on urban mobility and urban sustainability. Her research and professional interests lie in public policy analysis and policy evaluation in the fields of transport and infrastructure policy, mobility, sustainability and regional development.

